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DEVOTED TO

Agriculture, Manufactures, Mechanic Arts, Internal Improvement, Commerce,

PUBLIC POLICY,

AND

POLITE LITERATURE.

Agriculture and the Mechanic Arts are the basis of Civilization.

M. TARVER & H. COBB,

EDITORS & PROPRIETORS.

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1855.

NORTH MISSOURI RAILROAD.

CHANGE OF TIME.

ON AND AFTER September 16th, and until further notice, the passenger and freight trains will run daily, (Sundays excepted,) between St. Louis and St. Charles, stopping at the intermediate stations.

Leave St. Louis at 7 o'clock A. M., and at 4 o'clock P. M.
Leave Ferry Landing (opposite St. Charles) at 8:45 A. M. and 6 P. M.

SUNDAY TRAINS.

The passenger trains only will run on Sundays, and will leave as follows:
Leave St. Louis 7 A. M., 8:45 A. M., and 2 P. M.
Ferry Landing, (opposite St. Charles,) 8:45 A. M., 12 M., and 4 P. M.
The fare through, when tickets are purchased at the Company's office, will be 75 cents. Persons purchasing of the Conductors will be charged 10 cents extra.
The St. Charles Company's ferry boats will run in connection with the trains.

W. W. MORRIS,
Engineer and Superintendent

BELLEVILLE AND ILLINOISTOWN R. R.

CHANGE OF TIME.

ON and after Monday, October 8th, 1855, and until further notice, trains will run daily, (Sundays excepted,) as follows:

Leave Belleville at 8 o'clock A. M., and 2:30 P. M.
Leave Illinoistown at 10 A. M., and 4:30 P. M.

SUNDAY TRAINS.

On and after Sunday, October 7th, will run as follows:
Leave Belleville at 7:30 A. M., and 4:00 P. M.
Leave Illinoistown at 10 A. M. an 4:30 P. M.

☞ Passengers are requested to purchase tickets before taking seats in the cars. Five cents extra will be charged for tickets purthased from the Conductors.

A. A. VAN WORMER, Superintendent.

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In a financial point of view, the consequences of war will depend in a good degree upon the policy pursued by a nation in times of peace.

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* Vide vol. XI, p. 77.

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* Vide vol. XI, p. 77.

throughout all classes, and financial derangement follows as a natural consequence.

To arrive at a reasonable conclusion touching the consequences of the present war in Europe, we must look to the nature and general policy of the respective governments engaged in it, and also to the character, habits and industrial pursuits of the people.

Besides being the most commercial of all nations, Great Britain is also, in proportion to the number of her population, the largest producer of manufactured commodities. But in time of war these great elements of wealth and power are neutralized, in no small degree, by a want of capacity to produce a sufficient quantity of bread and provisions. In ordinary seasons, in times of peace, a reliance upon other countries for a portion of these necessary articles can scarcely be regarded as detrimental to the prosperity of that country; for it is the means of opening markets for its manufactures, and extending the range of its commerce. This reliance upon other countries for bread is, however, an expedient—an artificial system of national economy, always presenting a weak point in time of war, which no foresight can effectually guard against.

Breadstuffs and provisions produced in other countries constitute an important element of British commerce, and this branch of trade has increased until it is now a necessity which controls, in a great degree, the public economy of the nation. There is scarcely a civilized country on the globe which does not contribute to the support of the British operative, and so long as this system of economy remains undisturbed by war, the supply of food may be relied upon with as much and perhaps more confidence in Great Britain, than in any other country. But a war with any one country cuts off a portion of her supplies, and at the same time closes the market of the beligerent nation against her manufactures. Consequently, in time of war, she must draw more largely from those countries with whom she is at peace, and if they should not increase their demand for her manufactures, some branches of industry must languish and a drain of the precious metals take place in exchange for bread and provisions. This is a simple view of the general effects of war in all countries, but it is presented here as being especially applicable to Great Britain.

By reference to the most reliable authorities in our possession, we find that the imports of flour, and all sorts of grain into Great Britain, amounted to 7,746,071 quarters, in the year 1852, and to

10,230,474 quarters in 1853, making an average of about 71,-000,000 bushels per annum. During the same period the imports of flour and grain from Russia amounted to 1,299,657 quarters in 1852, and 1,713,615 quarters in 1853, being an average of 12,-053,088 bushels per annum. In 1852, Great Britain received from Egypt 777,745 quarters of flour and grain, from Wallachia and Moldavia 713,877 quarters, from France 745,161, from Denmark 770,196 quarters, and from Prussia 554,702 quarters, amounting in all to 28,493,472 bushels. Now if we assume that during the present war Great Britain should obtain no grain from any of these countries, and that the supplies drawn thence in 1852 represent the amount of average years, she will require from other countries with which she is at peace, an additional amount of 38,-890,728 bushels of flour and grain over and above the demand of ordinary seasons. In times of peace, France may be regarded as self-sustaining in respect to bread, but the war has already driven her into foreign markets, and she will probably require from ten to fifteen millions bushels of grain annually during its continuance; and we shall not be far from the mark, if we set down the augmented demand upon this continent for grain, by reason of the war, at 50,000,000 bushels per annum. Averaging all sorts at one dollar and fifty cents per bushel, the amount will be $75,000,000, to which may be added $25,000,000 for an augmented demand for provisions and other commodities, including the advance of freights, &c. Yet an opinion seems to be entertained by some that the war in Europe will necessarily drain this country of its precious metals. This opinion is certainly not sustained by the laws of commerce upon any other ground than the assumption that the increase of our imports from Great Britain and France will exceed the augmented demand of those countries upon this for breadstuffs and provisions. If the present state of things should continue for some months, we shall look for an increase in our imports of foreign merchandize; but it is scarcely probable that it will equal the increase of our exports, and we are persuaded that in case the war should continue, the exports of specie from the United States will be materially diminished during the ensuing year.

We see no reason to suppose that our public securities held in Europe will be returned for liquidation, as many imagine, for it is to be remembered that it is the government rather than the people that needs money in time of war; and, besides, the holders have no

right to demand payment unless their claims are due. It may be that public securities may have been hypothecated upon terms that may compel the owners to provide for them in a manner not anticipated, but we imagine that such instances will constitute but a small item in the great volume of American finance.

Nor do we anticipate any material decline in the demand or price of our great staple, Cotton. The advanced rate of interest on money, and high prices of bread and provisions, will occasion a temporary depression in the price of this article, but we are persuaded that its consumption will be but slightly, if in any degree, checked by the war. For the commerce of all the consumers of cotton is open as heretofore to the American producer, and except in respect to Russia, it is also open to the British and French manufacturer. It is the nature of war to put money into circulation, and in its earlier stages to augment the prices of all commodities which are necessary to the support and comfort of the people, and should the present beligerent state of Europe continue for one or more years, we should expect to see the price of cotton conforming much nearer to the prices of breadstuffs and provisions, than it does at this time.

In contemplating commerce and finance upon an extensive scale, Great Britain is to be regarded as the center of both, and it is idle to suppose that her resources can be exhausted, or her prosperity materially retarded, by such a war as that in which she is now engaged.

The governments of Great Britain and France will doubtless be borrowers of money during the period of hostilities, but governments do not borrow to hoard. Their financial operations will in all probability put an end to the sale of American securities to foreign capitalists for a time, but they will draw into circulation a great amount of the precious metals which has accumulated in the hands of cautious individuals in the rural districts, and there need be no apprehension for years to come, that Great Britain and France will be able to pay us in specie for all the bread and provisions which they require from this country.

But it is scarcely to be desired, that we should import the precious metals from Europe to any considerable amount; for if we can stop the drain from this country, the production of our own mines will be sufficient for all practical purposes, and enable our works of public improvement to proceed without foreign aid.

But assuming that the war will continue for several years, and that our views of its consequences are correct, yet we see no reason to suppose that our country will be benefitted by it in the end. High prices for food and other necessary commodities may benefit some individuals, but it may be well doubted whether under any state of facts they contribute to the solid and lasting prosperity of a nation. If occasioned by local causes, such as inadequate production, or speculation, they are sure to be associated with evils which outweigh the benefits; and if occasioned by a foreign demand, they derange the established pursuits and economy of the country by concentrating too much labor upon one or a few objects. In all cases, but more especially in the case of a foreign demand, high prices of bread and provisions bear with a crushing force upon manufacturers, from the humblest artizan to the most extensive proprietor. Hence the continuance of the present war in Europe is to be deprecated by this country, where one of our chief advantages in manufacturing consists in the low price of bread and provisions.

But it is not to be expected that the prices of food which have prevailed through the present year, will continue beyond the coming in of another harvest. It requires but a small increase in the breadth of land appropriated to the culture of grain, to enlarge the crops in this and other countries to an extent which will reduce the prices at home to the ordinary standard, a state of things which may yet occur before the present crop is exhausted.

From our present view of the entire subject, we are persuaded that there is no rational ground for the panic which seems to be felt in some quarters, nor is there reason to expect that, in a national point of view, the country will derive any important benefit from the war.

Certain districts in the grain and provision growing region will doubtless be benefitted, but the advantages enjoyed by these, will be counterbalanced by the diminished profits of the cotton districts, and of the manufacturers, including the handicrafts and other industrial pursuits in towns and cities.

Under all the circumstances, it is gratifying to observe that there is little or no spirit of speculation in other objects than food; and this is so abundant, and the means of obtaining intelligence respecting the demand and supply so much in the power of every one, that we are persuaded that no great embarrassment will flow from that source.

To prevent the people of this country from being too sanguine in respect to a continuance of high prices for bread and provisions, it should be borne in mind, that the scale upon which wars are conducted in the present age, depends chiefly upon the financial strength of the beligerents, and where wars are of long continuance, the industry of the people is naturally directed to the production of those commodities which are most necessary to sustain large armies. Hence, when a state of war continues for a time sufficient to conform the industry and economy of a people to its wants, the production of bread and provisions will be augmented and prices decline to the ordinary standard in times of peace. We have a remarkable instance of such a result in the European wars of the early part of the present century.

From the year 1809 to 1813, the price of wheat in Great Britain ranged from 92s. 5d. to 122s. 8d. per quarter. The highest point was reached in 1812, and although the expenses of the war were about $70,000,000 more in 1813 than in the preceding year, the average price of wheat declined from 122s. 8d. per quarter in 1812 to 106s. 6d. per quarter in 1813. In 1814 the average price of wheat went down to 72s. 1d. per quarter, while the cost of the war increased about $18,000,000. In 1815, the year of the battle of Waterloo, when the cost of the war was estimated at £89,728,926, about $70,000,000 more than in 1814, the average price of wheat fell to 63s. 8d., which is but little above the average price in times of peace. Nor was this decline occasioned by importations at low prices, for the importations in 1814 amounted to only 681,333 quarters, and ceased entirely in 1815.

It is furthermore to be observed, that the high prices of grain which now prevail are owing as much perhaps to short crops occasioned by unfavorable seasons on the continent of Europe as to the war.

The financial derangement now prevailing in England will doubtless affect this country for a time by reducing commercial credit to a strict line of actual liquidation. But the consequences will be temporary; and unless our imports exceed our exports, or the rate of interest on money in that country should advance beyond its value, in this, we are acquainted with no law of commerce by which Great Britain or France can draw from us the precious metals.

The recent movement by the Bank of England in advancing the rate of interest to 7 per cent. on bills having more than sixty days

to run, is to be regarded as an act of policy rather than one of necessity. It may not materially affect the price of bread and provisions, but it is calculated to depress the cotton market, a result which will place the raw material in the hands of the manufacturers at low rates, while it will diminish the money value of the imports from the United States to that country.

This policy presents in a strong light the power which the Bank of England is capable of exerting over the industry and economy of this country, and suggests the importance of extending the manufacture of cotton fabrics in the United States to an extent that will establish a strong and active competition with foreign countries for the raw material.

In conclusion we may simply remark, that at no time in the history of this country has its resources been so abundant as at present, and if with all our means we should be drawn into financial difficulties, and our progress impeded by a war in Europe, it will afford another argument in favor of giving greater encouragement to manufacturing and mining industry.

THE LATE MANN BUTLER.

The following chapter, in continuation of the history of the "Valley of the Ohio," was placed in the hands of our compositor but a day or two before the decease of its author, and the present seems to be a proper occasion for acknowledging the many kindnesses which we have received at the hands of our highly esteemed and much lamented friend. While we forbear to give utterance to our profound sense of personal bereavement, we may be allowed to record our testimony of the private and public virtues of the deceased.

MANN BUTLER was one who lived and delighted to labor for the benefit of the human family at large. He was admitted to the bar as a lawyer, but his literary taste gave a different direction to his life, which was devoted chiefly to teaching, and to collecting facts of Western history. He published, many years ago, a History of Kentucky, and at the time of his death had nearly completed the great work of his life, a history of "The Conquest and First Settlement of the Valley of the Ohio by Americans." This is a work of no ordinary merit, and we sincerely hope that some competent individual will prepare it for the press at an early day.

MANN BUTLER belonged to a class of individuals of whom there are but few living at the present time: He was, in the best meaning of the term, "a gentleman of the old school," and won the esteem and affectionate regard of all with whom he associated. He was taken away by the accident at the Gasconade bridge, on the Pacific railload, on the first day of November, 1855. Mr. BUTLER was about 72 years of age, but retained his mental faculties in full vigor, and possessed to the last a cheerfulness of spirit which threw a pleasing charm around his venerable and dignified person.—SEN. ED.

ARTICLE II.

Valley of the Ohio.

BY MANN BUTLER, ESQ.

Continued from page 388, Vol. XIV, No. 6.

The valley of the Ohio certainly comprehends the waters of the Cumberland and Tennessee rivers, though their general course is far south of the great central stream. But if the physical and geographical connection of the valley, with its southern waters, were more doubtful, than it in reality is, still the union and combination in policy and arms, which mark the early efforts of the pioneers, both of western Carolina and Virginia, unite their history. They both penetrated the same Indian wilderness for hunting, for settlement and war; they fought the same enemy, they treated with the same; they were both present at the memorable battles of Kenhawa and the Flats of Holston, and the no less memorable treaty of Watauga, as well as other enterprises of inferior import, should not then the same history preserve the gallant and manly efforts of both people, so far as its humble efforts may contribute to do so?

The earliest accounts represent the visits of Indian traders from Virginia among the Cherokees, to have been about 1690, as one Doherty from Virginia, also a French trader, by the name of CHARLEVILLE from New Orleans. The latter is said to have traded in 1714 with the Shawnees, then inhabiting the country upon the Cumberland river, anciently known as the *Shawnee* river. The store of this French trader was built upon a mound, near the present site of Nashville, on the west side of the river, and also near French Lick creek, about seventy yards from each stream.* Adair, from South Carolina,† travelled and traded with the Cherokees and other southern tribes for forty years. In 1730, the time of his coming, the Cherokees were living on the river of their own name, likewise called the Hogohege, or Hogohegee, a name which was sometimes applied to the Lower Ohio.

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* Ramsey's Tennessee, p. 63.

† He wrote a huge volume full of most visionary and eccentric speculation on the Jewish affinities of the Indian tribes.

Others are known to have visited the Cherokees for the purpose of trading, rather than of exploring new homes in the west. The usual route to the country in these times was the Great War Path, which led from the north fork of Holston, above the Long Island, in the north-east part of the present Tennessee, across the French Broad Branch of the Tennessee river, in the south-west.*

In 1761, a party of hunters, composed of Wallen, Scaggs, Cox, Blevins, and fifteen others, explored Carters' Valley in the north-east of the present State. This party hunted on Clinch and Powel's rivers for eighteen months. Wallen's Ridge, often called Walden's and Wallen's Creek, received their names from the leaders of the party. They penetrated as far north as Laurel Mountain in Kentucky.

The military advances into the country seemed now to demand attention; the first was in 1756, when the Earl of Loudon, then governor of Virginia, ordered Andrew Lewis, afterwards so distinguished in our colonial history, to establish a fort on the Little Tennessee River, at the highest point of its navigation. It was nearly opposite to the spot on which Tellico blockhouse has since been placed; and about thirty miles from the present town of Knoxville, in the forks of the Little Tennessee and the Tellico rivers. A most injudicious post, placed at the very door of the Cherokee towns, and unsupported by any line of settlements or forts. It seems to have been a most rash advance into the wilderness, at great risk, and more calculated to exasperate than to awe the hostile tribes.

It looks at this day to have been another Fort Duquesne, in the heart of the wilderness. It was called Fort *Loudon*, in honor of the royal governor. It was armed with twelve great guns, as the Indians called them, or artillery.† "A wagon had not passed the head of Holston, and not till the autumn of 1776 had one come as low down that stream as the Long Island, with provisions for the supply of Fort Patrick Henry, (between the forks of Holston, hereafter to be noticed.) Artillery could not have been brought

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* It is well delineated on the map accompanying the rich work of a devoted historian of Tennessee, Doctor J. G. M. Ramsey, in his Annals of Tennessee, to which the author acknowledges his deep indebtedness, and also in Bancroft, IV, 350.

† The difficulties of conveying these cannon, however small they might have been, at that day, into the heart of an Indian wilderness, is well remarked by Doctor Ramsey, in his "Annals of Tennessee."

down the Ohio and up the Tennessee, for, after the loss of Du-Quesne, the French still held undisturbed possession of the rivers below. The cannon at Loudon were most probably taken across the mountain from Augusta, (Georgia,) or Fort Prince George, (on the head of the Savannah river, and 300 miles from Charleston, S. C., when reinforcements were sent to its relief. In this case, the transportation of the great guns must have been made along a narrow mountain trace upon pack horses, requiring, in the more difficult gorges even yet found in the intervening country, the assistance of the soldiers. It is barely possible that these cannon may have been brought from Fort Lewis, or Fort Chisel, to the head waters of Holston, and carried down that stream, and up the Little Tennessee to Fort Loudon. There is no tradition on the subject in Tennessee."* This fort was estimated to be 500 miles from Charleston in South Carolina. It is remarkable as the *first fort* erected in Tennessee by Anglo-Americans. Lewis informed Gov. Dobbs, of North Carolina, that, upon his arrival at Chota, he had received the kindest usage from Old Hop, the Little Carpenter, and that the Indians generally expressed their readiness to comply with their late treaty with the Virginia commissioners. This state of mind was, however, quite changed, (in some probability by the intrigues of the French from the South, then at war with the British,) when the fort was finished. In truth, the Indians here, as in the North, and everywhere that the European nations having possessions in North America, adjacent to one another, have been at war with one another, or with our own countrymen, have been the object of common intrigues to obtain their alliance.

The date of Fort Lewis established by Virginia, near the present town of Salem, in Battetourt county, I have not been able to procure. It was probably named after Col. Andrew Lewis. In 1758 Col. Bird, or Byrd, in pursuit of the French and Indians, who had recently taken Vaux Fort, on Roanoke, marched his regiment and built *Fort Chissel*, and stationed a garrison in it. It stood a few miles from New River (the Upper Kenhawa above the Green Briar river,) near the road from what is since known as Ingle's Ferry. Col. Bird continued his operations still further, by erecting another fort this autumn "on the north bank of Holston,† nearly opposite

* Annals of Tenn., 57.

† Sometimes written Holstein, in 1749. Martin's Louisiana.

to the upper end of the Long Island, now (1853) the property of Col. Netherland. It was situated on a beautiful level, and was built on a large plan, with proper bastions, and the walls thick enough to stop the force of small cannon shot. The gates were spiked with large nails, so that the wood was all covered." An army, or rather garrison, wintered here in 1758: it is the *second* fort of the Anglo-Americans erected in Tennessee, although it was thought at the time to be in Virginia.

In the spring of 1758, the garrison of Fort Loudon was augmented to two hundred men, and in a few months, by the arrival of traders and hunters, it grew into a thriving village.

But causes of hostility soon arose between the whites and the Indians. A party of Cherokees was returning from the capture of Du Quesne, through the back part of Virginia, when "some of them who had lost their horses in the expedition, laid hold on such as they found running at large, and appropriated them. The Virginians resented the injury by killing twelve or fourteen of the unsuspecting warriors, and taking several more prisoners. This ungrateful conduct from allies whose frontiers they had defended and recovered, aroused at once a spirit of deep resentment and deadly retaliation."* The usual course of massacre and devastation was spread by the Indians over the frontier. Immediate measures of defence were adopted by the province of South Carolina, and application was made to Virginia and North Carolina for assistance against the common enemy. Troops of rangers were raised to patrol the frontier; and before the 6th of April, 1760, Col. Montgomery, afterward Lord Eglinton,† with a body of British soldiers was dispatched for the public defence. On being joined by 700 volunteers, with Moultrie, and possibly Marion, they rendezvoused at Congaree. Here, Montgomery was met by the whole force of the Cherokees; but he succeeded in relieving Fort Prince George. Still the Cherokees were not disposed for peace, indeed their hostages had been murdered in the Fort, and Col. Montgomery was ordered to the frontier to try and "penetrate through the dismal wilderness between him and the Middletowns"‡ of the Cherokees.

Captain Morrison's rangers had scarcely entered the valley of

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* Simms quoted by Ramsey, 55.

† Bancroft, IV, 351.

‡ The Middletowns were on the head of the Little Tennessee, between the Lower Settlements in the Savannah and the Upper Settlements near Fort Loudon.

the Etchoe,* or Etchowee, when the savages sprang from their lurking den, fired upon and killed the Captain and wounded a number of his men. A heavy fire began on both sides. The battle continued about an hour. Col. Montgomery lost in the engagement twenty men, and had seventy-six wounded.†

"On the following night, deceiving the Cherokees by kindling lights at Etchowee, the army retreated, and, marching twenty-five miles, they never halted till they came to War Woman's Creek, in the valley of the Savannah." "On the first day of July (1760,) the detachment reached Fort Prince George, and Col. Montgomery soon after set sail for Europe, and afterwards, in Parliament, to abuse Americans whom, like Col. Dunbar, in less embarrassing circumstances, he had deserted them, before the savage passions he had provoked. The similarity of circumstances in their desertions of duty in high places, well deserves the reprobation of history. Could there be an undercurrent of policy, on the part of the British government of that day, to repress the frontier of whose extension it was certainly jealous?

Nor were the consequences of this abandonment of duty by royal officers less fatal in the south, than they were in the north. But in addition to a wasted frontier, there was a beleaguered fort far in the interior, two hundred miles further from Charleston than Fort Prince George. It was Fort Loudon with its garrison, that was left to brave the exasperated fury of the Indians. "At the news of the massacre of the Indian hostages in Fort Prince George, the villages, of which there was scarcely one who did not wail for a chief, quivered with anger like a choped rattlesnake in the heats of midsummer." Such is the way, Bancroft beautifully expresses the feelings of the Indians at the intelligence of the murder of their chiefs while securities for peace. The Indians had bravely revenged this outrage of the garrison at Etchowee, and on many innocent families on the frontier; but their principal vengeance was destined to fall upon the unfortunate defenders of Fort Loudon. Virginia and South Carolina endeavored in vain to relieve this distant post. "Provisions being entirely exhausted at Fort Loudon, the garrison was on the point of starving. For a whole month, they had no

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* This is on the LITTLE TENNESSEE river, which interlocks with the Savannah, or Tugaloo river. See Bancroft, IV, 353, for a beautiful account of this expedition, with an interesting map of the wilderness.

† Idem, 56, 57.

other subsistence than the flesh of lean horses and dogs, and a small supply of Indian beans, procured stealthily for them by some friendly Cherokee women." In this extremity, "blockaded night and day by the enemy, and having no resource left," it was agreed "to surrender the fort to the Cherokees, on the best terms that could be obtained from them."* Certain terms were made by Capt. Stuart with two Indian chiefs; "which neither party observed," says Bancroft. The day after the surrender (August 8, 1760) of the garrison, the Indians surrounded their captives, and poured in upon them a heavy fire from different quarters, accompanied with the most hideous yells, which struck a panic into the soldiers who were so much enfeebled and dispirited that they were incapable of making any effectual resistance. Captain Demeré, (the commander,) with three other officers, and about twenty-six privates, fell at the first onset." Historians differ as to the fate of those who escaped immediate death; some represent their entire destruction with the exception of three, saved by the friendship of an Indian chief, and six who escaped into the white settlements; others, and they officers in authority at the time, that three hundred, including captives from the frontier, remained prisoners among the enemy.†

* * * * * * * *

They noticed the French Lick, where Nashville now stands; there were numbers of buffalo and other wild game around bellowing terribly. The party descended the rivers to Natchez, then in British possession, and disposed of the product of their hunt. An early exploit in the navigation of long and unknown rivers infested with savages and all the privations of a wilderness, which render it well worthy of record.

In 1771, the Lower Cumberland was further explored by a party composed of Mansco, John Montgomery, Isaac Bledsoe, Joseph Drake, Henry Suggs, James Knox, William and David Linch, Christopher Stoph and William Allen. These explorers gave their respective names to several salt licks, in the neighborhood of the present city of Nashville: as Drake's, Bledsoe's and Mansco's Licks.‡

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* Hewitt's Historical Account of South Carolina and Georgia. Republished in the collection of Carrol, quoted by Ramsey, 59.

† Two pages manuscript wanting.

‡ Ramsey's Tennessee.

By 1772, the various parties, the knowledge of a few of whom only has come down to us, had become so numerous, as to justify, and even require some steps towards the formation of a civil government. Driven away by the oppression of the royal governor of North Carolina, and also stimulated by the native love of enterprise, so congenial to frontier life, the pioneers were prompted to seek shelter in the mountains and forests of the West.*

The author had thought, until better informed by Haywood, Ramsey and Bancroft, that the colony of Transylvania in Kentucky, as previously related, had been the first formed government of our countrymen west of the Alleghanies. It does seem, indeed, to have been a more systematic body, than its Carolina prototype; the articles of this association, which was called the *Watauga Association*, unfortunately for the gratification of western curiosity, have perished.† They form another illustration of the innate love of order, and the singular capacity of the American pioneers for civil government.

In the mountains of Tennessee, as well as in the wilderness of Kentucky, the principles of *civil liberty regulated by old law*, were as dear to them, as to the people of the crowded city, and in the bosom of cultivated society.

Altho' a copy of these articles of association has not been recovered, yet the existence of the Watauga government has been authenticated by Bancroft's most exemplary enquiries, independent of the unquestionable traditions of the country under its rule.

It is by a letter from Gov. Dunmore, of Virginia, to the Earl of Dartmouth, Secretary of State, dated at Williamsburg, Va., 16th of May, 1774. In this letter, curiously brought to light by Mr. Bancroft, the Governor argues with the British Secretary, for the propriety of making grants of land at the West, on account of the establishment of this republic of Watauga. He does it in this manner, "there being actually a set of people in the back part of this colony (meaning the Holston country on the north side of the river, then supposed to belong to the province of Virginia,) bordering on the Cherokee country, who finding they could not obtain titles to the land, they fancied, under any of the neighboring governments, have settled upon it without, and contented themselves

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* Bancroft, VI, 301.

† Doctor J. G. M. Ramsey declares that "after the most diligent inquiry and patient search," he "has been unable to discover them."

with becoming, in a manner, tributary to the Indians (alluding to the *leases* from them to the settlers,) and *have appointed magistrates, and framed laws for their present occasions*, and to all intents and purposes erected themselves into, though an inconsiderable, yet a separate state.*

All the particulars which can be gathered respecting this primitive government in the woods, are that the settlers "formed a written association for the management of general affairs."† Having assembled in convention, they elected thirteen commissioners, five of whom were selected as a court. They were John Carter, Charles Robertson, James Robertson, Zach. Isbel, and John Sevier, to whom W. Latham was clerk. The first of these gentlemen became the chairman of the committee of the Watauga Association and of the court, which for several years combined the legislative, judicial and executive functions of the infant government. The administration was wise and popular, or it could not have continued to exist. How well and rapidly the people prospered under this primitive backwoods government, will soon be seen by their efforts against the common enemy both north and south.

Oppression of the tyrant, who ruled the province of North Carolina in the abused name of his king, Gov. Tryon, together with the love of new scenes characteristic of the people, had thus swelled the settlement on the Watauga and its neighboring waters with a numerous, hardy and high-spirited population.

They had felt the want of a common arbitrator between man and man in the various questions of right and wrong, which arise in society. The pioneers had not too soon taken the reins of government in their hands, for in May, 1776, intelligence reached them that the Cherokees, instigated by the British Superintendent of Indian affairs, were planning a formidable invasion of their settlements. This appears from a letter of Henry Stuart, the brother of John Stuart, the Superintendent, and himself Deputy Superintendent, addressed to the settlers on the Watauga and Nollechucky. In this letter he invites all good *royalists* or *tories*, as our countrymen denominated them, to subscribe an acknowledgment "of their allegiance to his Majesty King George, and that they are ready and willing whenever they are called on, to appear in arms, in defence of British right in America." Information was also con-

* Bancroft, VI, 401.
† Ramsey, 107.

veyed that an army would land in West Florida, then belonging to the British, and march through the Chickesaw nation, where 500 warriors from each nation are to join them, and then come by Chota, who have promised their assistance, and then to take possession of the frontiers of North Carolina and Virginia."*

These hostile projects were confirmed by a traveller who had left the Cherokee towns early in July; he stated that "the part of the Cherokees called the *Overhills*, were then preparing to go to war against the frontiers of Virginia, having purchased to the amount of a thousand skins or thereabouts for mockasons. They were also beating corn for a march, and making other warlike preparations. Their number, from calculation made by the *Raven* Warrior, amounts to about six hundred warriors, and according to the deponent's idea, he thinks we may expect an attack every hour."

In addition to this alarming intelligence, Jarrett Williams, the deponent, further declared that the "Cherokees had received the war belt from the Shawnese, Mingo, Toawah and Delaware Nations to strike the white people; that they all intended to strike the settlers in Kentucky." This intelligence from so many different sources, instantly put the pioneers on the alert.

John Sevier, the ready hero of the Tennessee pioneers, immediately wrote to Col. Preston, who seems to have been the Colonel of Fincastle county, Va., (then her most western county,) and his officers, the following Spartan dispatch:

Fort Lee, July 11th, 1776. Dear Gentlemen:—Isaac Thomas, Wm. Falling, Jarot Williams, and one more, have this moment come in, by making their escape from the Indians, and say six hundred Indians and whites were to start for this fort, and intend to drive the country up to New River, before they return. John Sevier.

Fort Lee is believed to be the fort at Watauga. "Col. Preston, in reply, promised relief in lead, which had been ordered by the Virginia Convention, to the amount of 2000 lbs., and double as much lead for the counties of Fincastle, Botetourt, Augusta, and West Augusta."

Nor were these preparations premature or the alarm unfounded. For though Col. Preston justly thought that the settlers had not "anything to fear from their pretended invasion by British by the route" the informers had mentioned, yet the Indians and British

* Ramsey, pp. 147, 148.

advisers had adopted the formidable plan of invading the settlements at four distinct points by different bodies of men. The first detachment was directed against the settlement around Heaton's Station, somewhere above the Long Island in Holston River. Here, a body of 170 riflemen had assembled from the neighborhood, and proceeded down the river, towards the Long Island. Here, or what are termed the Island Flats, our scouts discovered the Indian's advance, in a small body, which fled, nor could the main body be perceived. Shortly after, the Indian force was found to be pursuing the whites, who had retrograded after the first encounter. They formed in line of battle under the command of James Thompson, the senior captain, and after a heroic engagement, in which both Indians and white men fought with great fury, but after the death of several of their chief warriors, and the Indian commander dangerously wounded, the enemy retreated.

The Indians left "thirteen dead on the spot." The Indian force was estimated to be "not inferior" to the whites, they fought "with the greatest fury imaginable, and made the most vigorous efforts to surround" our men. The account of this battle is signed by *James Thompson*, *James Shelby*, *William Buchanan*, *John Campbell*, *William Cocke*, and *Thomas Madison*, directed to Major *Anthony Bledsoe*, to be immediately sent to Col. Preston. These gentlemen were probably all captains of companies fighting under their senior captain. This fierce encounter lasted but ten minutes, while the Indian loss in killed and mortally wounded amounted to upwards of forty.*

An amount incredibly inconsistent with the Indian loss in the battles fought against them further north.

A second detachment was under the command of a chief by the name of Old Abraham of Chilhowee, "distinguished more for stratagem and cunning than by valor and enterprise. He led his division along the foot of the mountains by the Nollichucky path, hoping to surprise and massacre the unsuspecting and unprotected inhabitants upon that river." The garrison at Gillespie's Station, on the upper part of the Nollichucky, had prudently withdrawn to the stronger fort, as I suppose, of Watauga, on the site of the present Elisabethton, in Carter county, Tenn. They had time only to take the most disposable of their effects with them, leaving their growing crops and stock to the mercy of the invaders.

* Haywood's North Carolina.

Soon after this movement, the Indian force arrived at the deserted fort, and were induced, by the recency of the removal, to make a rapid pursuit.

By this means "the standing corn, the stock and improvements of the settlers remained untouched and uninjured. The garrison reached Watauga in safety." By sunrise, the next morning, the Indians invested the fort; it was commanded by Captain James Robertson, at the head of about forty men, including the garrison from Gillespie's Station. Lieut. John Sevier and Andrew Greer were in the fort. The attack on the fort was violent and sudden, but repelled with considerable loss to the assailants. "No one in the fort was wounded." Still the Indians remained skulking about the fort for twenty days.

But in the meantime expresses had succeeded in escaping from the besieged fort at Watauga, and "Col. Shelby," Evan Shelby it is presumed, "raised one hundred horsemen and crossed the country to the relief of his besieged countrymen. Before his arrival at Watauga, the siege was raised, and the Indians had hastily withdrawn." This attack took place the 21st of July, 1776, the day after the battle near Long Island; and was kept up by the enemy for six days. The fort contained one hundred and fifty settlers. The women from the fort had gone out at daybreak to milk the cows, and were fired upon without injury.

A third of these attacks, so formidable to the infant settlements, was commanded by *Quorinnoh*, the *Raven* of Huwassee town. Adair says, "he was one of the most daring warriors of the whole nation, and by far the most intelligent, and this name or war appellative, admirably suited his well known character. It points an indefatigable, keen and successful warrior." This party "struck across the country, with the intention of falling upon the frontier people of Carter's Valley, in the north-eastern part of Tennessee, north of the present town of Rogersville, and close to the then Virginia line. The enemy "came up the Holston to the lowest station, and finding the inhabitants securely shut up in forts, and hearing of the repulse at Watauga, and the bloody defeat at the Flats, retreated and returned to their towns."*

* Idem, 159.

ARTICLE III.

(From the American Railway Times.)

Memoranda on Railways, prepared Office of Pacific Railroad Surveys.

BY CAPT. GEO. B. MC'CLELLAN, CORPS OF ENGINEERS, UNDER INSTRUCTIONS FROM HON. JEFFERSON DAVIS, SECREEARY OF WAR.

Washington, D. C., November 21, 1854.

SIR: I have the honor to submit the accompanying memoranda upon various practical points connected with construction, &c., of railways.

For the information therein contained I am chiefly indebted to Col. C. Crozet, Messrs. W. Raymond Lee, Wm. P. Parrot, J. Edgar Thompson, and William Parker, civil engineers, who most kindly afforded me all the assistance I asked.

The article on tunnels is taken principally from a paper by Mr. W. L. Dearborn, civil engineer.

I am, sir, very respectfully, your obedient servant,

GEO. B. MCCLELLAN, Lieut. Eng. and B't Capt.

Hon. JEFFERSON DAVIS, Sec'y of War.

GRADIENTS.

The following gradients are now, or have been, in use on American railways:

During the construction of the Baltimore and Ohio road a gradient of 528 was used on a temporary track, en boyau, merely to transport small loads of iron, &c. On the Virginia Central road the trains pass every day over a gradient of 275 feet—length two miles. On a part of this are curves of 300 feet radius (19° 6′) on a grade of 238 feet; 40 tons have been carried up this by a 30-ton engine on six drivers, with the utmost ease. Brakes of a peculiar construction are used, and found to answer well. On the "Virginia Central" the trains ascend at a velocity of about seven miles per hour, and descend at an average velocity of about four miles. In descending the steam is cut off and the wheels of the engine allowed to revolve, the brakes on the cars being "hard down." Reversed curves are frequent and sharp. On the Baltimore and Ohio road are grades of 116 feet for 17 miles. Auxiliary power is here employed, the trains being divided, and running up at the rate of 15 miles per hour. The trains descend these grades with a velocity of 25 miles under perfect control.

On the Pennsylvania Central road there are gradients of 95 feet for $9\frac{3}{4}$ miles; where curves occur the grade is reduced at the rate of 0.025 per 100 feet per degree of curvature. Passenger trains ascend this grade with a velocity of 24 miles per hour, and descend at 20 miles per hour. The ascent, when there are more than three

cars, is effected by the aid of an additional engine. The working load of the heavy freight engines (weighing 65,000 pounds, and on eight drivers) on the 95-feet gradient is 125 tons net, or about 208 tons, including tender and cars. Over the 53-feet grades on this road [Pennsylvania Central,] the general load of the engines [55,000 pounds, on six drivers,] is 150 tons net, or about 250 tons, including tender and cars. On the Massachusetts Western road are grades of 83 feet for 1½ mile. Engines of 20 tons draw 100 tons over this grade. Passenger trains run up at about 18 miles per hour without auxiliary power. The average amount of wood consumed and cost of haulage, on the whole road, are no greater than upon other Massachusetts roads of lighter grades.

It is the opinion of many able railway engineers that, on a permanent track, grades of 200 feet, and even of 250 feet, may be advantageously overcome by locomotive power; it being clearly understood that such grades are to be resorted to only in cases of absolute necessity—economy in working the road rendering low gradients very desirable.

The accompanying formulæ and their applications show what work is to be expected from any given engine over given grades, and make the loss of economy in any particular case a question of easy solution.

It is evidently the fact that there is at present a strong tendency to use much higher grades than were formerly considered practicable or advisable. Even in England and on the "Continent," the American system of cheap roads, with high grades, to avoid the great expense of long tunnels, deep cuts, and high embankments, appears to be, to a certain extent, rapidly rising in repute.

The use of Inclined Planes with stationary power, [within the limits before mentioned,] may, as a general rule, be considered obsolete, except in cases similar to that of the Pennsylvania Central road, where the amount of traffic is becoming so great as to require more than a double or even triple track; in this case it has been proposed to pass the Surplus Freight over the mountain, by means of stationary power, reserving the locomotive power for passengers and freight requiring rapid transportation.

Planes for Stationary Power should not exceed one mile in length. The number required to overcome any given ascent will depend more upon the elevation to be surmounted than the length of the ascent.

The opinion has been expressed by one of the most reliable railway engineers in the country, that where the gradient does not exceed 132 feet per mile, locomotive is cheaper than stationary power, without reference to the element or the first cost of grading for the two plans of operating the road; also, that the difficulty and danger in descending high grades is more important in determining their inclination than the resistance in their ascent.

In estimating the loss of economy of power in overcoming high gradients, the comparison should be made between the loads habitually drawn over the more favorable portions of the road, and the maximum load that can be draw over the gradient in question.

FORMULÆ.

To obtain the maximum load due any engine of given weight, upon a given grade, and to obtain the maximum grade up which an engine of given weight can draw a given load:

$$[1]\ x = \frac{0.2A}{0.4242f + 8}$$

$$[2]\ f = \frac{0.2A - 8x}{0.4242x}$$

} The engine and rail being in good order.

$$[3]\ x = \frac{0.143A}{0.4242f + 8}$$

$$[4]\ f = \frac{0.143A - 8x}{0.4242x}$$

} The rail being in bad order, slippery, greasy, &c.

In these formulæ, A represents the adhesive weight of the engine; that is to say, the portion of the weight of the engine actually supported by the drivers; it is expressed in pounds. In engines with four drivers, about 0.6 of the whole weight of the engine rests upon the drivers, sometimes as high as 0.67; 0.64 may be taken as the average. With six drivers the whole weight of the engine will rest upon them, and, consequently, be the value of "A."

"f" is the grade in feet per mile.

"x" is the load drawn, including tender, and is expressed in tons.

Formulæ [2] and [4] are simply deductions by transposition from [1] and [3].

In formulæ [1] and [3] the numerator expresses the *effective* adhesive weight; that is to say, it expresses the portion of the total adhesive weight which is found by experiment to be really effective in drawing a load in certain states of the rail. Now, since we know by experiment that on a level a force of eight pound is necessary to draw one ton, if we divide the effective adhesive weight [expressed in pounds] by 8, the quotient will be the load due that effective adhesive weight, and formula [1] will read $x = \frac{0.2A}{8}$.

On a grade we know that, in addition to the force necessary to overcome the friction, it is also necessary to apply further power to counteract the effect of gravity.

Taking a load of one ton, and calling "f" the height of the plane, "l" the length, [for the value of which we may, in the slight inclinations given railway grades, substitute the value of the base of the plane, without appreciable error,] we have for the tendency

of one ton to move down the plane $\frac{2240 \times f}{l}$, or substituting for l, 5280, the number of feet in a mile, $\frac{2240 \times f}{5280} = 0.4242 f$, "$f$" being the height in feet of a plane whose base is one mile long.

This expression [$0.4242 f$] is, then, the measure of the force required to prevent one ton from sliding down the plane, and must be added to the force necessary to overcome the friction of a ton on a level in order to obtain the force required to keep one ton in motion up a grade.

Dividing, then, by this sum [$0.4242 f + 8$] the disposable power of the engine [0.2A], we have the number of tons that the engine can draw up any given grade.

Engines usually weigh from 20 to 24 tons; some as much as 30 tons: it is considered desirable to reduce the weight of engines as much as possible, in order to diminish the wear and tear of the rails.

Most engines now run with four drivers—the front of the engine resting upon a truck with eight small wheels; some engines, particularly those intended for heavy grades, are placed upon six wheels, all drivers, in order to increase the effective adhesive weight. The objection to multiplying the number of drivers consists in the increased number of joints, &c., with the consequent increase of friction and loss of power.

A common 8-wheel tender weighs, empty.....	14,000 lbs.
Water for 25 miles [12,000 gallons at 8.35 lbs. per gallon	10,437 lbs.
Wood, [1.44 cord, at 3,180 lbs. per cord].....	4,579 lbs.
4 passenger cars, for 50 passengers each, at 12,000 lbs. each	48,000 lbs.
2 baggage cars, at 16,000 lbs.....	32,000 lbs.
200 passengers, at 150 lbs. each.....	30,000 lbs.
Baggage at 100 lbs each passenger.....	20,000 lbs.
Add for contingencies.....	12,224 lbs.
Total weight of train of 200 passengers.....	171,240 lbs.

or 76 tons.

We will now take a 20-ton engine on four drivers and apply the formula.

The total adhesive weight will be about.....	28,600 lbs.
Its maximum load on a level, over a good track.....	715 tons.
Its maximum load on a level, over a track in bad condition, slippery, &c.....	511 tons.
By formula [2] we have for the same engine the maximum grade up which it can draw the train of 200 passengers, as given in detail above.....	159½ f't.
By formula [4] we have for some data a maximum grade of.....	109 feet.

By formula [1] we have the maximum load of same engine up a grade of 150 feet.....	79 tons.
By formula [3] for same data we have a maximum load of.....	$56\frac{3}{4}$ tons.
For a 20 ton engine on six drivers :	
The total adhesive weight will now be.....	44,800 lbs.
By formula [2] we have the maximum grade up which it can draw a load of 76 tons.....	261 feet.
By formula [4] a maximum grade of	181 feet.
By formula [1] with same data we have for a grade of 150 feet a maximum load of.....	124 tons.
By formula [3] with same data, a maximum load of	89 tons.
For a 22-ton engine on four drivers :	
The total adhesive weight is about.....	31,500 lbs.
By formula [1] maximum load on level.....	$787\frac{1}{2}$ tons.
By formula [3] maximum load on level.....	563 tons.
By formula [2] the maximum grade up which it can draw a load of 76 tons is.....	178 feet.
By formula [4] it is.....	122 feet.
By formula [1] the maximum load that this engine can draw up a 150 feet grade is.....	87 tons.
By formula [3] it is.....	$62\frac{1}{2}$ tons.
For a 22-ton engine on six drivers :	
The total adhesive power is.....	49,280 lbs.
By formula [1] the maximum load on a level is.....	1,232 tons.
By formula [2] the maximum grade up which it can draw a load of 76 tons is	289 feet.
By formula [4] the maximum grade for same load is	201 feet.
By formula [1] the maximum load this engine can draw up a grade of 150 feet is.....	137 tons.
By formula [3] the maximum load for 150 feet is...	98 tons.
For a 24-ton engine four on drivers :	
The total adhesive weight is.....	34,406 lbs.
By formula [1] the maximum load on a level is.....	860 tons.
By formula [3] the maximum load on a level is.....	615 tons.
By formula [2] the maximum grade up which this engine can draw a load of 76 tons is	196 feet.
By formula [4] the maximum grade for 76 tons is...	135 feet.
By formula [1] the maximum load this engine can draw up a grade of 150 feet is.....	95 tons.
By formula [3] the maximum load for same grade...	$68\frac{1}{3}$ tons.
For a 24-ton engine on six drivers :	
The total adhesive weight is.....	53,760 lbs.
By formula [2] the maximum grade up which this engine can draw a load of 76 tons is.....	317 feet.
By formula [4] the maximum grade for same load is	221 feet.
By formula [1] the maximum load this engine can draw up a grade of 150 feet is.....	149 tons.

By formula [3] the maximum load up same grade is	106½ tons.
By formula [1] the maximum load this engine can draw up a 200-feet grade is	115½ tons.
By formula [3] the maximum load up same grade is	84 tons.
By formula [1] the maximum load up 275 f't grade is	86¾ tons.
By formula [3] the maximum load up same grade is.	62 tons.

For a 30-ton engine on four drivers:

The total adhesive weight is	43,008 lbs.
By formula [1] the maximum load on a level is	1,075 tons.
By formula [3] the maximum load on a level is	770 tons.
By formula [2] the maximum grade for a load of 76 tons is	250 feet.
By formula [4] the maximum grade for 76 tons is	173 feet.
By formula [1] the maximum load up a grade of 150 feet is	119½ tons.
By formula [3] the maximum load for same grade is.	83 tons.
By formula [1] the maximum load on a 200 feet grade is	93½ tons.
By formula [3] the max. load on a 200-feet grade is.	67 tons.

For a 30-ton engine on six drivers:

The total adhesive weight is	67,200 lbs.
By formula [1] the maximum load on a level is.	1,680 tons.
By formula [2] the maximum grade up which this engine can draw a load of 76 tons is	401 feet.
By formula [4] the max. grade for the same load is..	281 feet.
By formula [1] the maximum load this engine can draw up a grade of 150 feet is	186 tons.
By formula [3] the maximum load for same grade is.	133½ tons.
By formula [1] the max. load for grade of 200 feet is	146 tons.
By formula [3] the max. load for the same grade is.	104½ tons.

CURVES.

On the Virginia Central road there are curves of 300 feet radius on a grade of 328 feet per mile.

On a level, trains run on curves of 300 feet radius at a velocity of 20 miles per hour.

A radius of a 150 feet, and even less, is practicable; but in such cases the velocity of the train must be greatly diminished.

There are various formulæ for the calculation of the resistance on curves, but the simple inspection of a wheel that has been some little time in use will show the inaccuracy of the results. The formulæ are based upon the supposition that the surface of the tire is conical; this shape is soon destroyed by what is called the channeling of the wheel.

The resistances in question can probably be determined only by the result of many experiments with a dynanometer.

On the Pennsylvania Central road the grade is reduced on curves at the rate of 0.025 per 100 feet per degree of curvature.

CONSTRUCTION.

To Lay the Rails.—The round-bed being prepared, cross-ties placed, and iron distributed, a party of six men will lay half a mile of track per day.

The cross ties should be prepared with corrosive sublimate; the sulphurate do not answer a good purpose. 20,000 spruce cross-ties were prepared in this way, and laid in 1840; they are now perfectly sound, although the natural duration of the wood is but five years. Cross-ties average about twenty-five cents each.

Shallow Excavations may be covered with workmen. In the case of deep excavations, where the earth cannot be removed laterally, sections of one-half mile, worked from both ends, are usually most advantageous; this distance, however, will depend chiefly upon the relation between the established gradients and the natural surface of the ground. The end of a cut composed of loose gravel or sand will accomodate a force capable of moving 15 to 20,000 cubic yards in a month. In one case, 26,000 cubic yards of sand were moved in that time, the average haul being three-quarters of a mile.

Long, deep cuts of gravel, sand, or similar deposite, can be opened, (working two levels at each end,) with an average haul of one mile, at the rate of 15,000 to 25,000 cubic yards in 26 days.

Ordinary gravel can be dug, thrown into the car, and moved an average haul of 1,000 feet for 12 cents to 14 cents per cub. yard; for every additional 100 feet add a third of a cent. One man shovels into a car 15 yards to 18 yards per day.

STATEMENT OF WEIGHTS, COST, &c.

Locomotives weigh from 12 tons to 30 tons, generally from 20 tons to 24 tons. They cost from $5,000 to $8,500, freight engines being rather more expensive than passenger-engines. This includes the cost of an ordinary eight-wheel tender.

A tender on sixteen wheels, carrying about 2,500 gallons of water, will weigh about 28,000 pounds empty.

A tender on eight wheels, of 1,250 to 1,500 gallons capacity, weighs 14,000 pounds empty.

A tank on eight wheels, holding 3,000 gallons water, will weigh less than an eight-wheel tender, and cost $650.

A tank on six wheels, of 2,500 gallons capacity, costs $550.

Baggage-cars generally weigh 16,000 pounds, and cost $1,200.

Passenger-cars for 50 passengers weigh 12,000 pounds, and cost $2,000.

Passenger-cars for 75 passengers weigh 14,000 pounds, and cost $2,500.

Freight-cars on eight wheels weigh 14,000 pounds, cost $750, and are of about eight tons to ten tons capacity.

Passengers are usually allowed from 50 pounds to 80 pounds of baggage each.

The weight of passangers may be estimated at 150 pounds each.

On the New England roads the average cost of the transportation of freight is $1\frac{1}{2}$ cent per ton per mile.

The transportation of passengers costs about $1\frac{1}{2}$ cent each per mile.

This is the average of the actual running cost, and does not cover depreciation of the road; to provide for this, and to secure a fair profit, it is generally stated that the fares and freight charged must be double the amounts given above.

In Massachusetts the average cost of repairing locomotives is (per annum) $6\frac{1}{2}$ cents per mile run. For repairing tracks, exclusive of iron renewals, $11\frac{1}{2}$ cents.

The average durability of iron in Massachusetts is not more than ten years. Old rails are re-rolled at a cost of $25 per ton; the ends may be rewelded for $5 per ton. In this connexion it may be remarked that the ends of the rails first give way, as a general rule; they are repaired by cutting off the injured part of the upper flange and welding on a piece of "Swedes" bar iron. Small injuries in the middle part of the rail may be repaired, economically; in the same manner.

The average waste of steam while engines are at rest, stopping on the road, steaming up, &c., is one-third of the whole amount generated.

In Massachusetts, engines usually run with a pressure of 100 pounds in the boiler. The strength of the boiler is from 350 to 500 pounds.

Rails are now rolled from 18 feet to 23 feet in length; on the New England roads they average about 60 pounds to the yard; 90 pounds to the yard is recommended by many engineers as the proper weight for the Pacific railway.

A cast-iron wheel of the ordinary size will safely bear a weight of $1\frac{1}{2}$ ton.

BRIDGES.

The railway wooden-truss bridges cost from $30 to $35 per running foot.

200 feet has been found to be about the maximum length that it can safely have; many engineers prefer reducing the spans to 50 feet.

Iron bridges have been successfully and economically used on some railways, and cost $40 per foot.

Many engineers prefer, whenever it is possible, using culverts and high embankments to the employment of bridges, as being the safer and more economical plan. This course has been adopted with embankments as high as 160 feet.

WATER AND FUEL.

The capacity and weight of tenders and tanks will be found in the preceding statements.

To supply a passenger train, of 200 passengers, for 25 miles, under ordinary circumstances of track, &c., there will be required, of

Water	1,250 gallons.
Wood.—such as pine	1.44 cord.
Or of coal—anthracite	0.64 ton.
Or of coke	0.62 ton.

To supply the same train 100 miles—

Water	5,000 gallons.
Wood	5.76 cords.
Or coal—anthracite	2.56 tons
Or coke	2.48 tons.

The quantity of anthracite as given above is on the supposition that this train makes no long stops: in that case the amount would have to be increased.

The average of six trips on the Boston and Maine railway gives the following result:

A load of 170.5 tons (weight of cars and freight, exclusive of engine and tender, in tons of 2,000 pounds) was drawn 74 miles, at a velocity of 14.5 miles per hour, with an expenditure of 4.654.5 pounds of anthracite, and 3,348 gallons of water.

The average of eight trips gave as a result that 10.59 pounds of anthracite evaporate 7.48 gallons of water, or 0.78 ton to 1,250 gallons of water.

The trip with Cumberland coal indicated that 9.19 pounds of it will evaporate 7.48 gallons (1 cubic foot) water, or 0.64 ton to 1,250 gallons of water.

On the same road the average of ten trips results as follows:

A load of 210 tons (as above) was drawn 74 miles, at a velocity of 14.1 miles per hour, with an expenditure 3.4 cords of wood, and 3,734 gallons of water.

These experiments were conducted in the winter season, and the track was more or less obstructed by snow and ice, giving a very unfavorable state of the rail.

1 cord of beech evaporates	1,621 gallons water.
1 cord of spruce evaporates	1,200 gallons water.
1 cord of hemlock evaporates	1,028 gallons water.
1 cord of pitch-pine	994 gallons water.
1 cord of white-pine	906 gallons water.

Cotton-wood can be used, but is one of the least valuable species of timber as a steam-generator per pound; and its specific gravity is very low.

The result of a year's work on the Central road of Georgia shows that one cord of wood was used for every sixty-six and four tenths miles on the road.

As pine wood is corded on the tender, one cubic foot will evaporate one cubic foot (7.48 gallons, or 62½ pounds) of water.

One cord southern pine weighs 3,180 pounds.

One cord common dry pine weighs 2,616 pounds.

For passenger trains the water stations are usually about 25 miles apart.

For freight trains 12 to 15 miles is found convenient distance for replenishing the supply.

Over ordinary grades, say 30 feet to 40 feet, there would be no difficulty in carrying water and fuel for 108 miles, either by using additional tenders, or large ones made for the especial case, or tanks; the weight, &c., of these being given, it becomes a simple matter of calculating the extra weight to be drawn in any given case.

A partial remedy would be to condense the exhaust steam. This has been done in Scotland to a certain extent.

In ascending heavy grades water is required oftener than usual. Thus on the heavy grades of the Baltimore and Ohio road [116 feet] water is taken every eight miles ; on the Western Massachusetts road the water stations are 10 to 12 miles apart on the heavy grades. It is to be remarked on this road the average consumption of wood is not greater than on others of less heavy grades.

When the track is obstructed by snow it becomes necessary for the passenger trains to take in wood and water oftener than usual, using about double the ordinary amount.

STATISTICS OF VARIOUS RAILROADS.

Boston and Worcester road.

Length, 45 miles; maximum grade, 37½ feet; minimum radius, 541 feet. This distance is accomplished, by trains of four to six passenger cars, in 1½ hour; consuming 1¾ cord of wood, and evaporating 1,200 gallons of water: water is taken once on the road.

Freight trains with maximum loads take water every 12 to 15 miles.

An engine has run, with a train, from Boston to Worcester and back (90 miles) with one cord of wood.

Boston and Providence road.

Length, 43½ miles; maximum grade, 37½ feet.

Trains of four to six passenger cars run at a velocity of 25 miles an hour, maintaining the same up the maximum grade; they consume 3,500 pounds of wood, and evaporate 10,000 pounds of water; take water once on the road, but no wood.

Freight trains as on Worcester road.

In severe snow-storms passenger trains drawn by two or more engines take water every 12 to 15 miles.

Pennsylvania Central road.

Passenger trains wood and water at from 20 to 30 miles; freight trains at an average of 10 miles.

Boston and Maine road.

Trains of four to seven cars at velocities from 24 to 34 miles per hour; take water every twenty miles.

Boston and Lowell road.

Length, 26 miles.

Passenger trains pass over this distance in one hour; take neither wood nor water; evaporate 1,100 to 1,200 gallons, and consume three-fourths of a cord of pine.

Freight trains carrying maximum loads due the engine take water once on the road, and travel with velocity of 12 miles per hour.

Burlington to Rutland.

Distance, 67 miles.

Passenger trains take wood and water once; freight trains take wood and water four times.

Rutland to Bellows Falls.

Distance, 53 miles; maximum grades, 60 feet.

Neither wood nor water is taken on the road in passenger trains. Velocity up maximum grades, 15 miles per hour.

With reference to the transportation of coal to be used as fuel, it may be stated that the freights by canal in New York and Pennsylvania vary from 1 2-10 to 1 7-10 cent per ton per mile; that the railroad freights on coal average about $1\frac{1}{2}$ cent per ton per mile; and, finally, that in Pennsylvania, under very favorable circumstances, coal can be delivered on the canal boats, at the mine, broken, screened, and weighed, at 55 cents per ton. Taking the average weight of hard wood fit for generating steam at $1\frac{1}{2}$ ton per cord, the probable expenses of transporting it by railway would be $2\frac{1}{4}$ cents per cord per mile.

The experiments before alluded to on the Boston and Maine road, show that 1 ton of anthracite = 1.6 cord of wood (such as used there;) or one cord of wood = 0.625 ton of coal, taking evaporating power as the standard of comparison. The general result of these experiments was that coal is more economical, especially with heavy loads, than wood.

The presence of metallic salts in water is injurious to the boilers; if in large quantities, they are prohibitory.

From the data given above, it would seem that the cost of transportation of wood for fuel would be about 2.4 times that of coal for the same purpose.

It will be remarked that freight trains habitually take water oftener than passenger trains; this arises from two principal causes; —first, more steam is wasted in freight trains, on account of the great detentions, &c., as well as other causes; secondly, the various water-stations seldom give sufficient water to afford a full supply to several trains; a little is, therefore, taken from each, so that no one need be exhausted.

Relations between Weight of Water and Fuel, and Maximum Load of Engine.

For a 22-ton engine on four drivers, on a level:

Weight of water and wood for 25 miles = 1-84 of maximum load of engine.

Weight of water and wood for 100 miles = 2-22 of maximum load of engine.

Weight of water for 100 miles and wood for 200 miles= 1-16 of maximum load of engine.

Weight of water and wood for 200 miles = 1-10 of maximum load of engine.

Weight of water and coal for 25 miles = 1-105 of maximum load of engine.

Weight of water and coal for 100 miles = 1-26 of maximum load of engine.

Weight of water for 100 miles and coal for 200 miles = 1-23 of maximum load of engine.

Weight of water and coal for 200 miles = 1-23 of maximum load of engine.

The maximum load of this engine, on a grade of 40 feet per mile, is by formula [1] 252 tons; by formula [3] 180 tons.

The relative consumption of fuel and water on passenger and freight trains is in proportion to the resistance to be overcome, and may be determined when the velocity and weight of each train are known.

To be continued.

Article IV.

(From the U. S. Mining Journal.)

On the Manufacture of Steel as carried on in Great Britain and other Countries.

BY CHARLES SANDERSON.

Continued from vol. XIV, p. 418.

The operation of conversion is extremely simple in its manipulation, nevertheless it requires great care, and a long as well as a varied experience to enable a manager to produce every kind or temper of that required by consumers. Considerable knowledge is required to ascertain the nature of the irons to be converted, because all irons do not equally convert under the same circumstances; some require a different treatment from others, and, again, one iron may require to be converted at a different degree of heat from another. The furnace must have continual care, and be kept airtight, so that the steel, when carbonized, may not again become oxidated. Generally speaking, in working converting furnaces but little attention is paid to the theory of producing steel, which I have endeavoured to explain. It is known amongst steel mak-

ers, that if iron be brought in contact with carbon, and if heat be applied, it will become steel. This is the knowledge gleaned up by workmen, and I may add, by too many owners of converting furnaces. The inconvenience arising from a want of care and knowledge of the peculiar state of the iron during its conversion sometimes occasions great disappointment and loss. The success usually attained by workmen may, however, be attributed to an every-day attention to one object, thus gaining their knowledge from experience alone; good, I admit, in a workman, but this should not satisfy the principal or manager of a steel work. It is perhaps, not needful that he should be a man of science, but I consider it the duty, as it certainly is the interest, of every owner of such works not only to satisfy himself, but be able to convince the minds of others, that he is fully conversant with the cause and effect of every operation in his business; and although a knowledge of chemistry may throw much light upon his operation, it is also necessary he should possess a varied experience in conjunction with it, before he can pretend to produce steel of such superior and uniform quality as the arts require. The conversion, or carbonisation of the iron, is the foundation of steel making, and as such may also be considered the first step in its manufacture. Before bar steel is used for manufacturing purposes it has to be heated, and hammered or rolled. Its principal uses are for files, agricultural implements, spades, shovels, wire, &c., and in very large quantities for coach springs.

Bar steel is also used for manufacturing sheer steel. It is heated, drawn to lengths 3 feet long, then subjected to a welding heat, and some six or eight bars are welded together, precisely as described in the refinement of natural steel; this is called single sheer. It is further refined by doubleing the bar, and submitted to a second welding and hammering; the result is a clearer and more homogeneous steel. During the last seven years the manufacture of this steel has been limited, mechanics preferring a soft cast-steel, which is much superior when properly manufactured, and which can be very easily welded to iron.

The price of bar steel varies according to the price of iron from which it is made, but as a general average, its price in commerce may be taken at £5 per ton beyond the price of iron from which it is made. Bar steel produced from the better irons is usually dearer than the commoner kind, on account of their scarcity.

Shear-steel in ordinary size, sells at £60 per ton nett.

Coach-spring steel from foreign iron, $22.

Coach-spring steel from English iron, £18.

These may be taken as approximate prices in 1854–55.

From the outline which I have given of the process by which various steels are manufactured, we have found in each great defects, want of uniformity, temper, or cleanliness of surface, unfitting them for many useful purposes. To obviate these defects,

both bar converted and also raw steel is melted, by which the metal is freed from any deleterious matter which the iron might have contained; a uniform and homogeneous texture is obtained, whilst an equality in temper or degree of hardness is secured; besides which the surface is capable of receiving a high, clear, and beautiful polish—qualities which the other steels I have described do not possess. The first steel which may be called cast steel, is the celebrated wootz of India; it is produced by mixing rich iron ore with charcoal in small cups or crucibles, these are placed in a furnace, and a high heat is given by a blast; after a certain time this ore melts and receives a dose of carbon from the leaves and charcoal charged with it, the result is a small lump of metal with a radiated surface about the size of a small apple cut in two; it is very difficult to work, nevertheless swords and other steel implements are manufactured from it in the East; it is not found in England as an article of commerce. The melting of bar-steel was first practically carried out by Mr. Huntsman, of Attercliffe, near Sheffield, whose son yet carries on its manufacture, for which he enjoys a very high celebrity, by making use of the best materials, and insisting upon the most careful manipulation of his steel in every process. The manufacture of cast-steel is in itself a very simple process. Bar-steel is broken into small pieces, these are put into a crucible; it is melted in a furnace about 18 inches square and 3 feet deep; the crucible is placed on a stand 3 inches thick, which is placed on the grate-bars of the furnace. Coke is used as fuel, and an intense heat is obtained by having a chimney about 40 feet high; although a very intense white heat is obtained, yet it requires $3\frac{1}{2}$ hours to perfectly melt 30 pounds of bar-steel; when the steel is completely fluid, the crucible is drawn from the furnace, and the steel is poured into a cast-iron mould. The result is an ingot of steel, which is subsequently heated and hammered, or rolled, according to the want of the manufacturers. Although I stated that the melting of cast steel is a simple process, yet, on the other hand, the manufacture of cast-steel suitable for the various wants af those who consume it requires an extensive knowledge; a person who is capable of successfully conducting a manufactory, must make himself master of the treatment to which the steel in manufactures will be submitted by every person who consumes it. Cast-steel is not only made of many degrees of hardness, but is also made of different qualities; a steel maker has, therefore, to combine a very intimate knowledge of the exact intrinsic quality of the iron he uses, or that produced by a mixture of two or three kinds together; he has to secure as complete and as equal a degree of carbonisation as possible, which can only be attained by possessing a perfect practical and theoretical knowledge of the process of converting; he has to know that the steel he uses is equal in hardness, in which, without much practice, he may easily be deceived; he must give his own instruction for its being carefully melted, and he must

examine its fracture by breaking off the end of each ingot, and exercise his judgement whether or not proper care has been taken. Besides all this knowledge and care, the duties of a steel maker are not ended; he has to adapt the capabilities of his steel to the wants and requirements of the consumer. There are a vast variety of defects in steel as usually manufactured; but there are a far greater number of instances in which steel is not adapted for the manufacture of the article for which it was expressly made. Cast-steel may be manufactured for plaining, boring, or turning tools; its defects may be, that tools when made crack in the process of hardening, or that the tool, whilst exceeding strong in one part, will be found in another part utterly useless.

Cast steel may be wanted for the engraver. It may be produced apparently perfect, and with a clear surface, but may be so improperly manufactured, that when the plate has been engraved and has to be hardened, it is found covered with soft places. The trial is even greater than when the engraving is transferred by pressure to another plate. I might cite a vast number and variety of instances in which cast-steel is manufactured by unskillful persons, and for want of a proper knowledge of the treatment which the steel will receive after it has left his control, it is found more or less unsuitable. It is, therefore, evident that a steel maker must not only attend to the intrinsic quality of his steel, but he has to use his judgement as regards the degree of hardness and tenacity which it should possess, so as to adapt it to the peculiar requisites of its employment. Now as to the prevention of the defects I have mentioned, although it is a task requiring much practical knowledge, yet it is attained by many who, having combined a knowledge of their own business with that of their customers, have gradually raised for themselves a deserved reputation.

ARTICLE V.

Chronology of the Western Country of the U. S.

BY MANN BUTLER, ESQ.

SPANISH ERA.

1762, Nov. 3. Spain acquires Louisiana from France by treaty in compensation for Florida ceded by the former to Great Britain, by the treaty of Paris, in 1763. This is the first title of Spain in the Valley of the Mississippi proper by treaty.

1766, March 5. The Spanish governor, DON ULLOA, arrived at New Orleans to take possession of Louisiana for Spain. A census of Louisiana at that time made "1893 men able to carry

arms, 1044 women married, 1375 male children, 1240 of the other sex: total 5562." [Gayarre, 3d Series of Lectures, p. 134.]

1767, Jan. 17 and 18. The two coldest days ever known in Louisiana. All the orange trees perished, as they had in 1748; in front of New Orleans the river was frozen on both sides to thirty and forty feet from its banks. [Idem 180.]

1768, Oct. 29. The Superior Council of New Orleans refused to concur in the French cession of Louisiana to Spain, and to obey Don Ulloa, the Spanish governor. They gave him three days to depart. On the 1st of November, 1768, Ulloa embarked on board a French vessel for Havanna.

1769, Aug. 17. Don O'Reilly arrived at N. Orl. with 20 ships and a body of 2600 picked men, to take possession of the prov. for Spain.

Aug. 18. The Spanish governor landed and received formal possession of Louisiana, from Philip Aubry, the French governor.

Aug. 21. O'Reilly caused twelve of the distinguished cititens of the colony to be arrested, their swords to be taken away, and then to be confined. Five of these were condemned to be hung.

1769, Oct. 25. Five of the persons condemned for participating in the conspiracy against the authority of Don Ulloa, the Spanish governor, although sentenced to be hung, were shot, from the impossibility of obtaining any person to act as hangman. By the census ordered by Don O'Reilly among the first acts of his administration, the population of New Orleans was "3190 persons of every age, sex and color. The number of free persons was 1902; 31 of whom were black, and 68 of mixed blood. There were 1225 slaves, and 60 domiciliated Indians." (Gayarré, quoting Martin's Louisiana.) The population of the other parts of the province, from the same authority, was:

From the Balize to the town	570	Attakapas	409
Bayou St. John & Gentilly	307	Avoyelles	314
Tchoupitoulas	4192	Natchitoches	811
St. Charles	639	Rapides	47
St. John the Baptist	544	Ouachita	110
La Fourche	267	Arkansa	88
Iberville	376	*St. Louis*, (Les Illinois)	891
Point Coupée	783	*New Orleans* (as before)	3190

Total population of Lousiana in 1769.....13,538

About half of this population was white. The population of 1850 was 450,000. The exports of the province at that early day may be interesting to the reader:

Inndigo	$100,000	Naval stores	12,000
Deerskins	80,000	Rice, Peas and Beans.	4,000
Lumber	50,000	Tallow	4,000
			$250,000

An interlope or contraband trade with the Spanish colonies took away goods worth..... $60,000

$310,000

The commerce of this vital point of western business and active life was in 1854; the total domestic exports were $37,698,277, foreign $407,073; total imports in American vessels $8,107,929, in foreign $2,652,570: total exports $38,105,350; total imports $10,760,499. (DeBow, 3d, 389.)

1777. Several large boats came from Fort Pitt to New Orleans for munitions of war, which had been collected by Oliver Pollock, the consul of the United States, "with the occult aid of Galvez," governor of Louisiana, "for the use of the thirteen United States." (Gayarré's Spanish domination of Louisiana, 109.) Among the commanders of these boats were Cols. Gibson, Benham and Linn, as well as Captain Willing.

April 22. Galvez kept up an active correspondence with Col. George Morgan, who was in command of Fort Pitt for the U. S. He proposed to Gov. Galvez to institute an expedition against Mobile and Pensacola, provided the Spaniards would furnish transports and artillery, which was declined by the Spanish governor quite eagerly.

1778, April 17. Exportation of produce to the ports of the U. States and of France permitted by proclamation.

April 20. Robertson's History of America, and Mercier's work entitled "The Two Thousand and Forty," prohibited by royal decree to be read. "The governor was instructed to proceed to the destruction of every copy which might be found in the province." (Idem, 117.)

1779, Jan. 15. "499 individuals from the Canary Islands who had come to the colony at the King's expense." (Idem, 120.) They were transported to the district of Attakapas, and formed in Bayou Teche a settlement called New Iberia. The smallpox very fatal and prevalent for many years. Hurricanes seem also to have been one of the chief scourges, and their frequency was really astonishing. Galvez, in a dispatch of the 15th January, 1779, speaks of one which had raged from the 7th to the 10th of October, 1778, with such violence that the sea rose higher than it had ever been known to do before, destroying all the establishments at the Balize, Bayou St. John and Tegouyou. (Idem, 121.)

1779, May 8, and July 8. Spain declared war against Great Britain, and on the 8th of July authorized Spanish subjects in America to take their share in the war against the English and their possessions.

Aug. 18. A terrible hurricane "burst out with such violence, that in three hours it destroyed a large number of houses in New-Orleans, the greater part of the dwellings and improvements on the banks of the river for forty miles up and down, swept off like chaff all the crops, killed almost all the cattle, and spread general consternation throughout the province. All the vessels which Galvez had in readiness for the expedition (against the English posts, at

Mobile and Pensacola,) went to the bottom of the Mississippi, with the exception of the frigate El Volante.

Aug. 27. Galvez set off from New Orleans up the Mississippi, at the head of about 670 men, of whom 170 were veterans, some free blacks and mulattoes, with Oliver Pollock, the American consul, and nine Americans as volunteers, without a single engineer, and with no tents. They were reinforced on the way up the river by 600 men of every condition and color, besides 160 Indians, forming a body of 1430 men.

Sept. 6. The expedition came in sight of Fort Manchac, then belonging to the British, about 115 miles above New Orleans, with a diminution of one-third of the force with which it had started.

Sept. 7. The attack was made on fort Bute, on the bank of the Bayou Manchac, with a garrison of 23 officers and privates. "This certainly was no great exploit," Gayarré sharply remarks.

Sept. 13. The march was resumed to Baton Rouge, 15 miles above Manchac.

Sept. 21. Fort Bute, or Manchace, surrendered to Gov. Galvez, with a garrison of 375 men, and also Fort Panmure at Natchez.

1780. On the 5th of February, Galvez sailed from the Balize with 2000 men for Mobile, among which were some companies of free blacks.

Feb. 14. Fort Charlotte surrendered to the Spanish arms.

Aug. 24. A hurricane much more furious than the one of the 18th August, 1779, swept over the province, destroying all the crops, tearing down the buildings, and sinking every vessel or boat which was afloat on the Mississipi or the lakes. (Idem, 151.)

Oct. 16. Galvez having obtained reinforcements from Havanna, set sail for Pensacola; but encountered one of those hurricanes which were so frequent in those days.

Nov. 16. Returned to Havanna with the shattered remains of his fleet.

1781, Feb. 28. Having assembled a more formidable force than he had before the storm, Galvez left Havanna for Pensacola (Martin's History of Louisiana, vol. II, p. 54.) with a ship of the line, two frigates and several transports, on board of which were 1400 soldiers, a competent train of artillery and abundance of ammunition.

April. The attack upon the fortifications of Pensacola began with a fire "really tremendous."

May 9. Pensacola, with all West Florida, surrendered to the Spanish crown.

1781, April 29. While the Spaniards were besieging Pensacola, Fort Panmure was recaptured for the British by Gen. Lyman, of Connecticut.

1783, Sept. 3. By the definitive treaty between Great Britain, the United States and Spain, "the provinces of East and West Florida were ceded to the latter power by the former.

1784, May 30. An Indian Congress opened of the Spanish officers and the Creeks, the Talapouches in particular, with McGillivray, a half-breed chief at their head, and "a treaty of alliance and commerce was sealed much to the satisfaction of the parties. McGillivray was appointed, by the Spanish governor, commissary general of all the Talapouche tribes, with a monthly salary which was not to be less than fifty dollars.

May 22. Gov. Miro had presided at another Congress of the Chickasaws, Alabamas, Choctaws, and the other smaller nations. Rich gifts were distributed, and the same treaties of alliance and commerce were sworn to, and signed. In justice to the Spanish government, a clause in these treaties must be mentioned, binding the Indian nations "to renounce forever the custom of raising scalps, and making slaves of our white captives," and, moreover, binding them to treat "prisoners with the kindness to which they are entitled, in imitation of the usages of civilized nations. (Id. 161.)

1784, Feb. 13, Nov. 15. The weather so severe that several times in six hours Reaumur's thermometer fell from 20° above the freezing point to 2° and 3° degrees below it, in a closed room where fire was kept up. On the 13th of February, 1784, the whole bed of the river, in front of New Orleans, was filled up with fragments of ice, the size of most of which was from twelve to thirty feet, with a thickness of two to three feet. This mass of ice was so compact, that it formed a field of four hundred yards in width, so that all communication was interrupted for five days between the two banks of the Mississippi. On the 19th these lumps of ice were no longer to be seen. "The rapidity of the current being then at the rate of 2400 yards an hour," (says Villers in a dispatch to his government; Gayarré, 163,) and the drifting of the ice by New Orleans having taken five days, it follows that it must have occupied in length a space of about one hundred and twenty miles. These floating masses of ice were met by ships in the 28th degree of latitude."

1785 to 1789. Gov. Estevan Miro, who had succeeded, ad interim, Gov. Galvez, promoted to the vice-royalty of Mexico, established a hospital for the reception of *lepers*. The leprosy which is now so rare a disease, was then not an uncommon affliction. This hospital was established "in the rear of the city, on a ridge of land lying between the river Mississippi and Bayou St. John." "The ground was long known, and designated as *La Terre des Lepreux in Leper's Land.* In a few years, by the diminution of the disease, the hospital went into decay, and the spot was covered with brambles, briers, weeds and a luxuriant growth of palmettoes. It is in our days a part of the superb suburb Frémé, and is embellished with houses and all the appliances of civilization." (Idem, 169.)

1785. The population of New Orleans was 4980, Ste. Genevieve 594, St. Louis 897, Baton Rouge 270, Natchez 1550, Mobile 746; the total 31,433. The expenses of the colony were between 400,000 and 500,000 dollars.

1787. Gov. Miro entered into relations with Gen. James Wilkinson, binding him to promote the Spanish interest; by "delivering up of Kentucky unto his Majesty's hands (meaning the hands of the Spanish king,) is the main object to which Wilkinson has promised to devote himself." (Idem, 199.)

1788, March 21. A terrible fire broke out at New Orleans, and reduced to ashes 856 edifices, among which were the stores of all the merchants and the dwellings of the principal inhabitants, the cathedral, the Convent of the Capuchin's, with the greater part of their books, the town hall, the watch house and the arsenal with all its contents. Only 750 muskets were saved." (Idem, 203, 204.) 700 persons were rendered houseless, and provided with tents and rice by Gov. Miro. $24,000 were sent to Don Gardoqui, the Spanish minister at Philadelphia, to purchase 3000 bbls. of flour, also shipping to procure nails, medicaments and other objects of indispensable necessity, which were to be resold at equitable prices. The account of losses sent to the court of Spain, by this terrible calamity, was $2,595,561. Col. George Morgan obtained from Don Gardoqui, the Spanish minister to the U. S., "the concession of a vast tract of land, about seventy miles below the mouth of the Ohio, on which he subsequently laid the foundation of a city, which he named New Madrid, in compliment to the Spaniards. It is now within the State of Missouri.

1788, June 15. "The flatboats of Brigadier General Wilkinson arrived (at New Orleans from Kentucky) with a cargo (of tobacco I suppose,) which cost $7,000 in Kentucky, under the care of Major Dunn. Population of the city of New Orleans in 1788, 5338, Ste. Genevieve 896, St. Louis 1197, Baton Rouge 682, Natchez 2679, Mobile 1468; total of the province 42,346; but ought to have been computed at 45,000 souls as alleged.

1790. The commerce of Louisiana, including the net produce of the seizure and sale of contraband goods, amounted to $66,163.

1791. The fugitives from the tender mercies of the new-fledged, dark-faced freemen and citizens, by a decree of the national convention setting in Paris, and old France, who had risen upon their former masters, and butchered them without distinction of age or sex, arrived at New Orleans. Among those unhappy refugees was a company of comedians from Cape Francais, who opened a theatre a short time after their arrival. This is the origin of regular dramatic exhibitions at New Orleans, for which that polished city is so famed. This year terminated the governorship of Estivan Miro. "He carried with him the good wishes and the regrets of the colonists." (Martin.)

Dec. 30. Francois Louis Hector Baron De Carondelet succeeded Miro.

ARTICLE VI.

(From the London Times.)

Russia on the Black Sea and the Sea of Azoff.*

The military system of Russia is commonly spoken of as dating from the time of Peter the Great, and in a certain sense this is quite true. The substitution of a standing army under a central authority in the place of the turbulent Strelitzes—the Janissaries of Muscovy—was the most important measure of that Prince's extraordinary reign, aud, indeed, the one without which all others would have been impossible. But the organisation of the army on its present footing is entirely the work of the Emperor Nicholas, whose darling object was to keep up his peace establishment so as to be able, the instant war should break out, to take the field with an overwhelming force, and strike a mortal blow before the enemy could prepare to offer resistance. A force, amounting on paper, including reserves, to nearly 1,000,000 of men, is distributed over the vast dominions of the Czar in such a way as to have its most effective portion spread fan shape round the European edge of the empire, from the Baltic to the Black Sea, thus overawing terrified Germany, while all the parts of it are ready to support one another in the long delayed move upon Turkey. No less than 400,000 soldiers occupy Poland—obviously not, as Mr. Seymour points out, merely to coerce the shattered, prostrate form of that unfortunate kingdom but to support Russian influence in Germany, and to consummate with the sword, when the proper hour comes, the ruin which corruption and intrigue have long been preparing for freedom of thought and action. This stupendous force prevents the other continental powers from reducing their armies, the dictates of self-preservation compelling them to expend a larger portion of their revenues on fortresses and military preparations in proportion as they approach nearer to the Russian frontier. No doubt a considerable deduction is to be made from the paper returns of the Russian forces for non-effectives, the immense area over which the conscription takes place involving the necessity of very long marches before the new levies arrive at the depot, and the recruit being so neglected during this stage of his career that formerly no less than half are said to have perished before the completion of the first year of service. At present the mortality is not more than one-third, owing, in a great measure, to the new distribution of the area of conscription introduced by the late emperor. According to this arrangement, the whole of European Russia is divided into an eastern and a western portion, and the conscription takes place

* RUSSIA ON THE BLACK SEA AND THE SEA OF AZOFF; being a narrative of the travels in the Crimea and bordering provinces, with notices of the naval, military and commercial resources of those countries; by H. D. Seymour, M. P.

over each of these in alternate years. It was expected that a levy of five in every thousand souls would be sufficient to maintain the army in an efficient condition, which would give an average of 2½ per cent. annually over the whole empire. This amount, however, was found insufficient, even at the outset, and at the expiration of the first ten years of the new system in 1849 the average levy for the whole empire had amounted to 3.7 per cent. annually. By recruiting the armies of the Caucasus and Georgia from the eastern district, and the armies of Poland and Bessarabia from the western, a considerable amount of transport is saved, and human life proportionately economised. Nevertheless, under the improved plan, the sacrifice is still enormous. Taking the statistics of M. Tengoborski, a Russian *employee*, Mr. Seymour shows that in the period from 1840 to 1854, both years inclusive, no less than 1,350,000 men have perished in the army from all causes. This is nearly the same thing as saying that the whole requires renewal every eight years; and even this fearful estimate does not seem to include the loss in the Cossack or in the Finland contingents, neither of which enter into the regular conscription.

It will easily be supposed that the dread of military service under such circumstances is great, especially among the Russians proper, who are naturally a pacific population, and with little desire for the glory of the warrior. Mr. Haxthausen gives an amusing description of the shifts to which the unhappy serfs, when drawn, sometimes resort, in the vain hope of obtaining an exemption from service. It is a common thing to affect extreme suffering or feebleness, as from some constitutional disease. The recusant conscript is brought, wrapt up in blankets, by his afflicted relatives, to pass the ordeal of the medical inspector. He shakes and shivers, but, unhappily, it is not with ague The doctor sees through the flimsy sham in a moment, and a single word consigns the poor wretch to the regimental barber, who shaves his beard and forepart of his head on the spot, and leaves him stripped naked in the snow, blubbering over a fate which appears to him no less than a sentence to death. Formerly it was a common thing for conscripts to run away and take refuge in the forests, whence they were hunted out like wild beasts; but the late emperor made great efforts to improve the condition of the soldier; and the result is that the announcement of a new levy does not excite quite so much consternation as it once did; although even now the separation of the conscript from his family, who regard him as certainly doomed to death, is a most heartrending spectacle. He is not, however, as used to be the case, marched off in chains to prevent his desertion.

The effects of the conscription in Russia upon the productive powers of the country have not often been considered with the attention which their importance demands. Agriculture is for the most part carried on entirely by serf labor, the cultivators working for a certain number of days in the year, generally one half on the

demesne of their lord, and instead of wages raising their own subsistence on another portion of the soil for themselves. The value of a Russian estate is entirely dependent on the number and quality of the serfs who are bound to cultivate it, the land itself being too cheap to be taken into account. But there is another even more remarkable feature, to our western notions, in the arrangement. The lots of land which represent wages are not separately cultivated by the individual serfs, but by the whole in common, the produce being divided in fair proportions by the producers among themselves. This, the sole instance of self-government in an otherwire unmitigated despotism, is said to work extremely well, and to be a custom as dear to the Russian boor as trial by jury is, or rather, perhaps, was to the Englishman. We are, however, concerned at present only with the effect of the conscription upon this order of things; and here it will be at once obvious, first, that every serf, who is taken as a soldier constitutes a tax, not upon the income, but upon the productive capital of the landlord. For every man that is taken his demesne looses the half year's labor (whatever this may be worth,) which that man would have performed upon it. But the poor serfs that remain suffer even more. The produce of their wage-land, (if we may coin a word to express the peculiar place which their portion of the soil occupies in the economy of the country,) is diminished by the same amount as the landlord's, but it is likewise burdened with the maintenance of the wife and infant children of the absent conscript. This burden has now become a most grievous one; for under the pressure of the war not only have the levies been increased to a fearful extent, but the age for military service has been extended to 37 instead of 30, and no exemption, as was formerly the case, is now granted to the sons of widows or the fathers of more than three children. It is obvious, therefore, that although it may suit the argument of Mr. Cobden and his friends to represent the Czar as being able to raise 240,000 soldiers by a stroke of his pen, there is, and by the nature of the case must be, a limit beyond which this power cannot possibly be exercised — viz: the point when the population that remains is only just able to maintain itself. And that this limit has, at any rate in some districts, been nearly attained can hardly be doubted. In the manufacturing districts the pressure must be felt, if possible, even more than in the agricultural. The serf artisan is a far more valuable piece of property to his master than the boor; and in the manufacturing establishments Mr. Seymour states his belief that as many as 25 per cent. of the workmen have lately been carried off for the conscription. It is to be remembered that coincidently with the diminution in home manufactures which this fact implies the foreign trade of Russia is all but annihilated.

It was a maxim of Peter the Great, which has been inherited by his successors, that every man is fit for everything; and the heroism which the poor Russian private in spite of his natural dislike

to military service, displays in enduring hardships and meeting death is worthy of all admiration. Under the influence of the cane he grows into one of the best of European soldiers, obeying the orders he receives as if any variation from them were not an offence but an impossibility. Haxthausen tells an anecdote which would be most touching, if it did not convey an impression of blockish stupidity almost as much as of courage. When the palace of the emperor at St. Petersburg was burnt a few years ago, a Greek priest, at the imminent risk of his life, rushed through the burning apartments to save a crucifix from a private chapel. On his return he was hailed by a sentinel, who had been stationed at the door and forgotten. "Save yourself," cried the priest, "or you are a lost man." "I can't, sir," was the reply, "for I have not been relieved; but I called to you to give me your blessing." The priest gave his benediction, and the sentry died at his post. Although there is nothing here comparable to the heroism of the British troops who went down in their ranks on board the Birkenhead steamer, before the grandeur of which even the glory of Thermopylæ fades away, it is impossible not to feel that such soldiers deserve a better fate than to be torn from their homes, plundered by their own officers, and finally left to die on the field of battle, for no higher object than to gratify a quenchless lust for empire.

There are some regulations of the Russian army from which military reformers in our own country may perhaps take a hint. One of these is that all officers who receive commissions are obliged to serve as non commissioned officers for a certain period, which used to be six months, but has lately been extended to two years. The only way of escaping this is by passing through the military schools, and undergoing the probation in these. An officer in the probationary state is called a "younker," and his only privilege is to have the drab great coat in which he performs the duties of a sergeant made of finer materials than that of the common men, an indulgence, however, which is at his own cost. Off duty he lives with the class in which he was born, but still wears his great coat even when dining at the general's table. On the other hand, hard as the life of the private soldier is, yet, if he behaves so as to be made a non-commissioned officer, he becomes a "noble" after twelve years' service, and either receives a commission or retires with a pension. The common soldier, too, is often decorated with the order which is of all most highly prized, the soldier's Cross of St. George. This is simply of lead, and is alike for both privates and officers. It was worn by the late emperor, having been gained by him under fire in the Turkish war. The Grand Cross of the same order is only bestowed for taking the capital of an enemy, or winning a battle which decides the fate of an empire. Until recently there were only two holders of this, the Duke of Wellington and Marshal Paskiewitsch, the latter of whom gained his for taking Erzeroum, the capital of Armenia. Radetsky has since received

it for his campaigns in Italy — a somewhat equivocal compliment to the emperor of Austria. The Soldier's Cross is bestowed upon the field where it is earned, and given not only after battles but whenever any man has performed a signal act of valor.

At the beginning of the war the army of operation consisted of eight *corps d'armee*, besides two reserve corps of cavalry. The first is the corps of Guards, consisting nominally of 38,000 infantry, 60 squadrons of regular, and 17½ of irregular cavalry, one division of mounted engineers, and 116 pieces of artillery. This corps, which is of course the flower of the whole army, has recently been moved into Poland from its usual station, St. Petersburg. The second is the corps of Grenadiers, consisting of the same number of infantry as the Guards, but with only 32 squadrons of cavalry and 88 guns. Their station was, and still is, at Novogorod, 90 miles from St. Petersburg. The other six corps are called infantry, although they are, like the Guards and Grenadiers, complete armies in themselves, and have nominally, each 50,000 infantry, 32 squadrons of cavalry and 112 guns. Of these corps the first four form the grand army, under Prince Paskiewitch, the Viceroy of Poland, and they constitute the arm which is raised in an attitude of continual menace against Western Europe. The regular station of the first of them is in the Baltic provinces; but it has recently been moved to Grodno and Bialostock in Lithuania, and is under orders to advance into Poland. The regular station of the other three is Poland, where they occupy a certain circle of cantonments in turn, care being taken not to allow them to remain more than three years in the same place. The second corps of infantry has now been removed to the Dniester and Pruth to replace the third corps, the head-quarters of which were at Kremenetz, in Volhynia, and which is now in the Crimea. One of its divisions arrived at Bakshiserai on the 20th of January in the present year. The fourth corps of infantry has also been moved to the Crimea. Gen. Dannenberg, who commanded it, was displaced in consequence of losing the battle of Inkermann, and succeeded by Gen. Osten-Sacken. But these commanders are Germans, as is also General Sievers, who commands the first corps, and Gen. Luders, who commands the fifth. This last is now in the Crimea, one division of it having returned from the army of the Caucasus recently. The sixth corps is usually stationed at Moscow, but two of its divisions are now in the Crimea, and the third in the Caucasus.

Each of these corps consists of three divisions, and each division of four regiments; and the Guards and Grenadiers being independent of these in the general system of the army, it is easy to ascertain from the numbers on the accoutrements of any soldier to what portion of the whole army he belongs. Thus, for instance, if the numbers are 17 and 66, it is plain that the wearer belongs to the second division of the sixth *corps d'armee*, and to the second regiment of that division.

Besides, however, the troops already described, there are two reserve corps of cavalry, considered to belong to the active army. The first of these consists of 80 squadrons and 48 guns. Its regular station is at Nemirgorod, on the Bug, and it has been moved to the seat of war. The second consists of 104 squadrons of Dragoons and 72 guns, 24 of which are light pieces, and attached to the same number of squdrons of light cavalry. And finally, there is the army of the Caucasus, consisting of no less than 170,000 men of all arms, so scattered however that the collection of 20,000 of them on any one point is always a matter of great difficulty.

Such were the gigantic dimensions of the army of operation with which Russia was at the outset prepared to meet the war that she determined in an evil hour to provoke. Such was the instrument of destruction in the forging of which she has been expending her revenues, while the other nations of Europe have been disarming, and bending their energies to the development of the arts of peace. Everything seemed at last ready for springing the mine which had been long laid. The emperor of Russia had come to be looked upon as the great conservator of order on the continent. The timid German Princes saw in him the only refuge, on which they could securely reckon, from the contempt or the indignation of their own subjects. The instructors of the popular mind in Germany were either debauched by Russian flattery and Russian gold, or by the countenance they had lent to the foolish revolutions of the last six years, had lost their authority with all rational friends of liberty. France, just emerged from a crisis which menaced her existence, could not be expected to incur the risks of a war to maintain the balance of power. England, in the full flush of an unparalleled prosperity, with her army and navy reduced, and her statesmen urging still further reductions—with one class of fanatics publicly asserting that national independence was not worth preserving at the cost of armaments, and another proclaiming that non-resistance to an invader was a Christian duty — would *she* rouse herself to save "the sick man?" While such mountebanks were listened to day after day without rebuke, could any other inference be drawn than one—that the British spirit had fled forever, and that any excuse would be accepted by the national conscience rather than hazard the diminution of material prosperity, and of the sensuous enjoyments which follow in its train? No! That the English nation was "too much vulgarised to make war with honor" was a phrase which expressed the not unreasonable conviction of the late Czar; and Englishmen have only themselves to thank for it. There was, indeed, one sovereign in Europe whose long acquaintance with our habits had taught him that the noisy quackery which is so often rife extends no deeper than the surface, and that the heart of the nation is as sound as ever it was. But that sovereign had learnt wisdom by the stern discipline of adversity—a discipline which was denied to the Emperor of All the Russias, the spoilt child of for-

tune. Heir of the policy of Peter and Catherine, like the ancient King of Lydia, his wishes allowed him to put but one interpretation on the oracle which the signs of the times furnished. He passed the fatal river to pull down a great empire. What empire it shall be is yet in the womb of time; meanwhile, let us observe how the scales of fortune are just now poised.

The general form of the Crimea, the arena on which the gigantic contest now waging is to be decided, is familiar to every one. It is the southern portion of the Steppes of Russia, with the important distinction that its southern portion is raised by volcanic action to a great height, sometimes reaching to more than 4,000 feet above the level of the Black Sea. A range of mountains, elevated by this cause, runs nearly N. E. and S. W. from Balaklava to Kaffa (or Theodosia). These mountains themselves occupy a considerable space; they are generally flat topped, and contain within their range high plains, resembling the high meadows called the "alps" in Switzerland, which are termed in the Tartar language "yaita." In these elevated plains alone is pasture to be found during the heats of the summer,—that is, from the end of June to the middle of September, or even later. On the south side of the mountain range there is a sort of undercliff, protected from the cold winds of the north by the wall of mountain which backs it, and in this the fertility of the soil vies with the exquisite beauty of the scenery. A road constructed by Prince Woronsow runs from the plateau now occupied by the allied forces through the valley of Baidar, and approaching the coast traverses this region as far as Alouchtd, where it turns northwards towards Simpheropol. After proceeding about twelve miles, the highest mountain in the Crimea, the Tchatir-Dagh (Tent Mountain,) rises immediately on the left. The traveller up to this point has been ascending all the way from Alouchta, but here, after passing a defile called Demir-kapou (Iron gate,) he descends the valley of the Angar, one of the affluents of the Salghir, the largest of the streams of the peninsula, and thence proceeds on a good road, with a general descent, to Simpheropol. The Tent Mountain, which derives its name from the resemblance of its upper portion to the tents of the Nogay Tartars, is composed of red marble. It may be ascended from its eastern side, and at the height of more than 4,000 feet above the sea presents the appearance of a flat table land four or five miles in length, and two miles broad, covered with fine pasture, on which feed numerous flocks of sheep. From this lower table rises another 700 or 800 feet high, the form of which gives the name to the whole mountain. We will suppose the reader to ascend this, and from his elevated position take a view of the scene around him.

So far as his eye meets the mountain range of which the Tchatir-Dagh is the highest summit—it being no less than 5,125 feet—he will discover nothing but exquisite beauty in whatever direction he

turns. In the "yaitas" he will see endless flocks and herds, and in the sheltered nooks Tartar villages, orchards and vineyards. The sea in the immediate neighborhood adds its peculiar charm to the view, and the whole presents a picture in which sublimity and softness are combined to a degree rarely, if ever equalled. But if the spectator turns to the northward or westward he will observe a strange contrast. In the former direction Simpheropol, the Russian capital of the Crimea, will seem, from the great height at which he is, to lie almost beneath his feet, and beyond it he will see spread out an uninterrupted plain of monotonous gray color, which stretches out not only as far as the isthmus of Perekop, but a couple of hundred miles further. The same appearance will be presented beyond Bakshiserai, where the mountains appear to terminate to the westward; so that, in fact, he may imagine himself standing upon a huge island surrounded by two oceans, the one of blue sea, the other of dull gray steppes. This latter region it is which renders nugatory the enormous hosts of Russia when directed against an enemy who has the command of the sea. If two irregular lines be drawn—the one within the peninsula from Kaffa, through Stæra Crim, Karasu Bazar, Simpheropol and Bakshiserai to the mouth of the Belbek river, just north of Sebastopol, the other from Bender, on the Dniester, in a north-eastern direction, through Krementchoug, Poltawa, and Izioum, to Saratoff, on the Wolga, the country contained between these limits possesses, with trifling exceptions, one monotonous character—namely, that of a vast undulating plain, bare of wood, covered in spring and early summer with a rank vegetation, and in winter with deep snow. Owing to the horizontal position and uniform quality of the *strata* of which it is composed, the rain which falls upon it does not sink through, and remains stored up below the surface, as is the case in porous soils, and those which have receptacles in their interior where the water which has percolated many collect. In the steppes of southern Russia, too, the highest point in the whole extent is a small hill only 240 feet in height, and the difference in elevation scarcely averages more than 50 feet; consequently, there is no opportunity for the existence of springs. The rain, when in such abundance as to do more than saturate the ground on which it falls, forms a torrent, following the various undulations of the surface, and cutting a channel for itself in the same manner as may be seen, on a small scale, on a turnpike road in England, after a thunderstorm, until it at last collects in some hŏllow, and forms a lake, a pond, or a swamp, according to the shape of the receptacle and the abundance of the supply. After the melting of the snows in the spring the whole country is for a time a wilderness of mud, over which no wheeled carriage can pass, intersected by ravines, formed by the running surface water in the course of succession of years. As the country becomes dry, and the power of the sun increases, there springs up a coarse vegetation sometimes of more

than six feet high, of low plants rather than grasses. In the month of July these are entirely burnt up by the want of moisture; the watercourses are dried up; and the flocks and herds, the principal tenants of these melancholy regions, are forced to take refuge in the neighborhood of the swampy pools which exist here and there in the hollows, finding upon their banks a pasturage which however coarse, is more palatable than the stalks of the burian, which alone remain elsewhere. As the summer advances the heat becomes more and more insupportable, the pools of water disappear, the sky becomes hazy, and the sun, at setting, reminds the traveler of the blood red hue which it assumes in the Arabian deserts; a scorching wind blows from the north-east, equally destructive to vegetable and animal life, and filling the air with clouds of dust. Every now and then rain clouds collect, and give a promise of some relief to the parched soil, but the upward current of hot air from the ground carries them away seaward, and their precious contents are discharged upon "the unfruitful brine." This state of things continues generally to the middle of September, when the autumnal rains commence, and call forth a new birth of vegetaiion. In November the tempests of winter return, and with them a new form of desolation throughout the steppes. Hurricanes are very common during the next four months, raising snow drifts which bury men and beast beneath them. The terrified cattle, when caught in one of these, become panic-striken, and disperse in all directions, sometimes running headlong into the sea, or the watercourses which seam the steppes. These storms last usually about three days, but have sometimes been known to continue as many weeks.

It is obvious that the possession of the whole peninsular of the Crimea virtually depends upon the possession of the mountain region, which has been described as lying like an island at the extremity of this singular country; and this question must be settled in favor of the belligerent who succeeds the best in pouring in regular supplies of men, food, and munitions of war. It would be hardly too much to say that the problem is a single one of transport. The command of the Sea of Azoff has not only destroyed at one stroke the greater half of the maritime commerce of Russia, but has deprived her army in the Crimea of the means of obtaining either reinforcements or food by any other channel than the passage across the steppes. Over these barren wastes must every man and every sack of flour be brought since the day when the gallant Lyons cleared the Sea of Azoff of the enemy's transports. Mr. Seymour is somewhat severe upon the Government for not having struck this tremendous blow last year. It is to us extremely doubtful whether it could have been delivered earlier than it really was. The Strait of Yenikale is closed with ice during the winter, and during the previous autumn it appears to have been barred by sinking a number of ships, as at Sebastopol. The melting of the ice in April carried away a large portion of the artificial barrier, and

the opportunity of entering was seized by the allies. If blame is imputable to the Government with reference to the Sea of Azoff, it is that they should not have provided a sufficient force of vessels of small draught to extend the successful operations of the flotilla beyond the bar of the Don, and destroy the magazines which, no doubt, existed at Rostoff. But, although these may still remain, the Sea of Azoff is stopped as a thoroughfare, and supplies can only reach Simpheropol by a land transport of nearly 400 miles through a country of the nature described above. The allies, on the other hand, possessing the absolute command of the sea, may easily maintain an army of 200,000 men in as effective a condition as if they were in the Isle of Wight. Nothing but organisation is requisite to relieve the army before Sebastopol of every sick or wounded man who hampers its movements, and supply it with the means of renewing every gun 20 times over. The resources of Sebastopol were indeed immense. It is in itself both the Woolwich and the Portsmouth of the Russian empire; but enormous as its stores were, they were none of them produced on the spot. The ships were built at Nicolaieff, the cannon cast at Lugan, and our navy bars, and will bar, so long as the war may continue, all communication with these points. In the nature of things, therefore, this fortress must at last fall, and with it the whole of the Crimea. The possession of the Sea of Azoff at once produced the abandonment on the part of the enemy of the fortresses on the coast of Circassia. They could not be held securely when the water communication was cut off; and, with their abandonment, the maintenance of the army in Georgia and Armenia becomes precarious.

If we look to the financial condition of the enemy, his case appears even worse. The Revenue of Russia in the last year of peace (1853) amounted, according to the assertion of M. Tengoborski, to £37,384,660 only, and there is good reason to suppose that this is an over-statement. Her expenses in 1854 reached £48,000,000, and for the present year the least sum at which they can be estimated is £56,000,000. This, it must be remembered, is irrespective of the taxation which the conscription imposes, as we have remarked above, upon the capital of the landlord and the wages of the poor; it is also independent of the forced levies of men and means of transport subsidiary to the movements of the army. Her foreign trade is extinct, except that small portion which may be carried overland; foreign capital, upon which the cultivation of her soil depends, no longer enters the country; the precious metals have disappeared, and the paper alone is to be found throughout the empire; the reserves of the army have been swallowed up in replacing the losses sustained in the last two years; the troubles in the Ukraine still continue; the burdens and privations of the war having surpassed the limit of even Muscovite endurance, every soldier who now falls is replaced with difficulty;

and, as Mr. Seymour truly says, it is hardly possible for Russia to carry on the war for another six months, unless by our fault.

We cannot conclude this notice of Mr. Seymour's book without recommending his views as to the principles which ought to regulate any peace that should be made. The English nation is, so to speak, in the condition of a man who has long patiently borne some troublesome complaint, and at last has had an operation forced upon him by sheer necessity. Is he to stop in the middle of it as soon as that necessity is removed? Is he to stay the surgeon's hand and tell him that the cause which brought him to the operating table has been removed, and that every additional gash is unnecessary torture, although a complete cure will obviously result from it? This would have been precisely the conduct of England, had she followed the recommendations of Mr. Gladstone, Sir James Graham, and Lord John Russell—a result which would undoubtedly both have caused us to fail in our paramount object and made us the laughingstock of the world. That war is too dreadful a calamity to be begun rashly, every one will allow; but it is not less important to remember that it is also too dreadful a one to be ended rashly. The one condition necessary for laying the spirit of barbarian despotism is now fulfilled, by the cordial union of England and France. Wo to the statesman who shall cast away the golden opportunity of achieving a result more glorious than any conquest—the securing the civilisation of the world by relieving it forever from the nightmare of Cossack domination.

ARTICLE VI.

Third Annual Report

OF THE BOARD OF DIRECTORS OF THE ST. LOUIS AND IRON MOUNTAIN RAILROAD COMPANY, TO THE STOCKHOLDERS.

Gentlemen: In the report submitted to you by the Board of Directors twelve months ago, it was stated that the entire construction of your road from St. Louis to Pilot Knob, (about 86 miles) was let to Messrs. WATTS & Co., with the exception of the Maramec Bridge, and a small portion of graduation adjacent in the hands of CONRAN & Co., and some three-quarters of a mile of graduation near the city, undertaken by Messrs. KAYSER & Co. You were also then informed that owing to the heat of summer, the death of some of the sub-contractors, and sickness amongst operatives, together with the difficulty of negotiating securities at fair prices, comparatively little had been done, although the con-

tract had been closed some eight months previously. The Directors also stated that up to that time, in view of high prices that had ruled for labor, and the low figures realized for securities, they had not deemed it advisable to urge contractors to greater efforts," and further said, however, "that the price of labor was coming down and they anticipated no further delay, *should the price of our bonds justify pushing the work.*" That report stated distinctly "that the Directors considered it better policy, however anxious to complete the road at an early day, to work slowly and wait patiently whilst the securities are greatly depressed rather than to force the contractors to sacrifice them at ruinous rates, thus breaking themselves down, and wasting the company's resources." The present Board, believing the view to be correct, did not hurry the work last winter, whilst our bonds were so much depressed, and several months were thus, in a great measure, lost. When returning spring and a more buoyant money market created a better demand and higher prices for our securities, the Directors and Engineers were most earnest in their endeavors to induce the contractors to increase their force and urge the work forward. This they have all the time promised to do, but have not performed in a manner to justify the hope that the work will now be finished in contract time. That it may still be finished, is perhaps in the bounds of possibility; but the Directors do not look for such a consummation.

The total failure of the crops last year, and consequent difficulty in obtaining supplies along the line, at even exorbitant prices, operated so unfavorably on the sub-contractors, that few of them have been able to keep on the required force, and many abandoned their work altogether. In this way, great delay has occurred, and the unusual number of wet days, during the summer, with the prevalence of chills and fever amongst the hands recently, have also tended to retard the work and keep the monthly estimates much below the limit they would otherwise have reached. We deem it but just to Messrs. WATTS & Co., to mention these facts, as some excuse for their slow progress, though the Directors themselves are bound to admit they have not been fully satisfied with the efforts made by the contractors; and have even yet to complain that some of the sections are by no means progressing as rapidly as they could desire. The contractors have, however, now a heavy interest in successfully prosecuting the work to completion, as early as possible, in the per centage reserved in the monthly payments, which they cannot receive until the work is done, and their final estimates in; and this interest becomes greater and the consequent security to the company of a more reliable character every day, even admitting contractors to have but little prospect left of earning their bonus of 5 per cent. in stock, payable by the provisions of the contract in case the work is finished by the first of December, 1856.

One-third of all the graduation and masonry is done, notwithstanding the draw backs we have above alluded to; and we believe the whole can be finished by the winter of 1856 and '57, and the road yet be completed and fully in operation to the Pilot Knob by midsummer following, provided the ruling prices for our securities will justify pushing the work, and the additional means required can be obtained on fair terms. Whether these results are likely to follow, the stockholders can perhaps as correctly judge as the Directors. The money market is not within the control of either. Aside from the question of legislation in regard to our railroads, a plethora of the precious metals and abundance of capital seeking investment, or, on the other hand, the reverse of such a state of things, must directly influence the question of how we are to obtain more money when present assets are exhausted. At the date of our last annual report, the means of the Company, of every description, available and unavailable, was shown to be a little short of $2,250,000; and it was then stated that with $1,250,000 more State credit, which we hoped to obtain, the amount still required, $600,000 or $700,000, to finish the road to the Iron Mountain might be expected from the corporations and citizens of St. Louis city and county. Only $750,000 additional State credit was given us by the Legislature—an amount far short of our wants, but, perhaps, as much as we needed at that time to enable us to purchase the rails required for our road, and to go on with our work with a well grounded hope of its eventual completion—more than two-thirds of the means necessary being thus provided. It will be remarked that we speak all the while of the road as ending for the present at the Pilot Knob; but we by no means wish it understood that we regard that point as its final terminus. Our preliminary surveys have been made both to the Mississippi river and to the Arkansas line; of which detailed reports of the Engineers were published last year, and estimates were then given of the probable business and profits of the road, not alone as a local work, bringing the Iron Mountain within four hours of St. Louis, but as the great and direct line of communication with the Mexican Gulf and Southern Atlantic seaports, via Memphis; and also as giving us a most valuable connection with the Southwest, and, perhaps, eventually with the Pacific, by a junction with the Cairo and Fulton road. We have every confidence in the favorable estimates of the business of the road then made, and an abiding faith that it must and will be finished, not alone to the Pilot Knob, but to the Mississippi river opposite Kentucky City, to Madrid, and to Memphis, intersecting, as before remarked, the Cairo and Fulton road near Indian Ford on the St. Francois river. With these views we have an agent procuring right of way south of the Pilot Knob, and have flattering reports of his success, as also of the probability of his obtaining a large subscription (600,000 or $700,000) from individuals and the counties along the line.

Our immediate business, however, is to give you full information in regard to the condition of that portion of your road now under construction, viz: from the city of St. Louis to the Pilot Knob; and with the desire to give every thing that may prove acceptable to you, or of interest to the public, we append to this report not only the Treasurer's annual aggregate statement, but such of the accounts in detail as we thought might be desired to show the disbursements. We believe it will appear from an examination of the accounts referred to, that due economy has been observed in the administration of the Company's affairs, as we feel assured the Company's agents and officers have endeavored to carry out the Directors' intentions in this particular. The only account of disbursements that would seem to conflict with this view is that of engineering, the amount expended under this head being disproportioned to the actual amount of gross expenditures to date, and greater, perhaps, than they should be, according to the estimate. But we would refer in explanation of this to the large amount laid out in preliminary surveys in the first instance (the country through which the road is located being a most difficult one,) and the surveys since made south of the Knob, together with the necessity of keeping an engineer force along the whole line of operations, whilst the work is in progress, however slowly it goes on, as shown by the report of the Chief Engineer, herewith submitted, in which he goes fully into details of matters connected with his department.

As above stated, *one-third* of the graduation and masonry of the entire line from St. Louis to the Knob is done. On that portion of the work which lies in our county, between the city and mouth of the Meramec (one-fifth of the length of the road,) all of the graduation is so nearly finished that the road bed can easily be got ready for the rails by the first of January.

The rails for the whole line to the Knob [9000 tons] have been purchased of Messrs. WOOD, MERRELL & Co., of Cambria Works, Johnstown, Pa., and owing to the advance that has taken place in the price of iron, on terms very favorable to our Company.

A portion of the rails are already manufactured and are now in Pittsburgh awaiting shipment. One thousand tons are to be delivered by 1st December, and the residue as fast as they will be required during the next spring and summer. Payment is to be made in cash as they are received. And the sale of the $750,000 State bonds last granted to the Company will realize the money as needed, and these bonds are considered as specially put aside for this object. About $75,000 worth of rolling stock has been contracted for — all in this city. Three locomotives from Messrs. PALM & ROBERTSON; and the following cars from the shop of the Pacific Railroad Company: six passenger, one baggage, ten housed, twenty open, twenty gravel and four track laying cars.

Both locomotives and cars have been ordered with the view of commencing to lay track by 1st January, and no doubt is entertained but they will be ready as required. Of course you will remark this is but a moderate outfit even for a start to operate your road; but we thought it better rather to risk wanting stock—should our expectations be more than realized in the early completion of the road—than to be much oversupplied in this particular in case of delay. The right of way is nearly all arranged for, as appears by annexed abstract, showing amount paid therefor. But few individual cases remain to be adjusted by the Courts.

Whether we shall be permitted to go through the Arsenal and Jefferson Barracks without being compelled to use horse power, is yet a question for Congress or the War Department, no action having been taken in the matter during the late session of Congress.

No additional land for permanent depot in the city of St. Louis has yet been obtained beyond the block east of Main, and north of Miller street. A petition is before the City Council asking for the half block owned by the city in front of the Gas Works; and the block and a half adjoining, owned by Messrs. TAYLOR & MASON, will have to be condemned, as all the land between Miller and Convent streets, bounding west by Main, and east by the wharf, will be required for the Company's purposes.

There having been no flood for the last two years, and consequently no deposit on the line of Main street, which requires a very heavy fill, the Directors thought it advisable to make a temporary depot towards the Southern limits of the city; and they have accordingly taken a lease for that purpose, of suitable ground, owned by Mr. H. C. LYNCH, on Kuskiusko street, in Block 738. The graduation from that point to the Arsenal wall is progressing rapidly. In Carondelet, depots have been established in Block 6 for the Northern part, 21 centre, and 66, near the Southern limit. Four acres have been obtained immediately south of the Arsenal wall, for the site of a temporary machine and rapair shop, and forty-five acres of Messrs. JARVIS & FLETCHER, on the Joachim, near the foot of the first heavy ascending grade, going South, which is believed to be the most suitable location for the general work-shop, and locomotive and car station of the Company. This land lies well, is in a good farming region, and has been obtained on terms very favorable to the Company. We give in detail an account, showing the amount paid for the real estate, for depots, &c., so far as located.

Many propositions are before the Board, offering on reasonable terms sites for other stations in St. Louis, Jefferson and Washington counties; which it has, however, not been deemed advisable yet to act upon.

For the year just closed, the expense for officers and agents, exclusive of engineers, has been as follows:

President—L. M. Kennett	per annum	$2,000
Secretary and Treasurer—S. D. Barlow		1,200
Attorney and Counsellor—Thos. C. Reynolds		1,000
Collector—E. Colston, a commission of 1½ per cent. on collection.		
Colored Porter and Messenger		240

Basil Duke, Esq., was land agent at the commencement of the year at $125 per month; but having nearly completed, in a manner most satisfactory to the Company, all the work this side of the Pilot Knob, his services were dispensed with after the 1st of January last, and the duty devolved upon the Chief Engineer of closing up the unfinished business in this department. Recently an agent has been appointed to obtain relinquishments of right of way and subscriptions of stock South of the Pilot Knob, at a salary of $1,000 per annum and a small commission on subscriptions of stock which he may obtain, but nothing as yet has been paid him.

Your Chief Engineer, Jas. H. Morley, receives $2,400, and the consulting Engineer, Thos. S. O'Sullivan, $1,000 per annum. The three division Engineers, Messrs. Flad, Mandeville and Edwards, receive $125 per month, or $1,500 per annum; and their several assistants, rodmen, &c., are paid as shown in a detailed statement of Chief Engineer.

The Board take pleasure in saying that they believe the employees of the Company have not only proved faithful and honest, but most efficient in the discharge of the duties entrusted to them. For themselves they can only hope that what has been done by them or their President at their instance may meet your approbation and approval; and that time may show they have made no mistake seriously injurious to the important work of which they have had charge, and the success of which they have so much at heart.

St. Louis, November 1, 1855.

COMMERCIAL STATISTICS.

An Account of the Corn, Meal, and Flour, imported into Great Britain in each year, from 1st January 1815 to 1849.

Year.	Imported from Ireland.	Imported from the Brit. North Amer. Colonies	Imported from all othe parts.	Total Imported
	Qrs.	Qrs.	Qrs.	Qrs.
1815	821,192	25	333,041	1,154,258
1816	873,865	3	319,203	1,193,071
1817	695,651	25,877	1,715,353	2,496,881
1818	1,204,733	56,618	3,474,051	4,735,402
1819	967,680	14,257	1,693,255	2,675,192
1820	1,415,722	40,897	1,300,953	2,757,572
1821	1,822,816	40,916	216,738	2,080,470
1822	1,063,089	23,439	102,365	1,188,893
1823	1,528,153	209	53,432	1,581,794
1824	1,634,000	891	609,147	2,244,038
1825	2,203,962	95,059	962,118	3,261,739
1826	1,693,392	30,500	2,218,830	3,942,722
1827	2,828,460	61,035	2,550,310	5,439,805
1828	2,826,590	21,600	1,272,396	4,120,586
1829	2,307,244	7,335	2,680,414	4,994,993
1830	2,215,521	79,634	2,355,412	4,650,567
1831	2,429,182	225,240	3,316,760	5,971,182
1832	2,990,676	129,476	668,422	3,788,665
1833	2,737,441	117,745	326,524	3,191,710
1834	2,792,658	66,829	592,071	3,351,558
1835	2,679,438	25,016	296,189	3,000,643
1836	2,958,272	18,561	625,032	3,601,865
1837	3,030,293	19,060	1,306,870	4,356,223
1838	3,474,302	19,479	1,515,250	5,009,031
1839	2,243,151	17,438	4,573,660	6,834,249
1840	2,327,782	178,828	3,811,694	6,318,304
1841	2,855,525	308,382	3,378,599	6,542,506
1842	2,083,600	247,127	3,475,970	5,806,697
1843	2,721,400	146,647	1,299,776	4,167,823
1844	2,460,800	297,926	2,794,357	5,583,083
1845	2,292,800	312,438	2,118,707	5,423,945
1846	1,625 000	431,075	4,480,302	6,536,777
1847	879,900	546,431	11,769,728	13,196,059
1848	1,827,000	229,313	7,125,688	9,182,338
1849	1,175,000	210,510	10,616,338	12,001,848

Imports of Breadstuffs into Great Britain.

The total imports in Great Britain of grain, meal and flour, for 5 years, as made up from the official returns, were:

(From the Merchants' Magazine.)

From	1849. Quarters.	1850. Quarters.	1851. Quarters.	1852. Quarters.	1853. Quarters.
Russia, Northern ports	340,633	363,779	572,257	343,949	634,404
Do. Black Sea ports	572,735	589,250	762,160	957,877	1,070,483
Denmark and Duchies	1,311,086	1,077,735	843,007	770,194	947,015
Prussia	1,354,691	1,343,780	930,168	554,703	1,177,764
Hanse Towns	595,673	392,853	143,476	167,858	305,044
Other ports of Germany	416,023	457,844	336,691	339,734	363,075
Holland	586,739	495,614	153,774	221,563	170,762
France	1,919,410	1,328,922	1,591,377	745,162	714,242
Italian States	406,034	210,249	555,905	193,974	237,755
Wallachia and Moldavia	325,128	217,505	624,242	713,876	665,106
Other Turkish ports	423,976	276,528	474,937	200,021	744,084
Egypt	392,727	558,063	958,995	777,745	643,129
British North America	181,622	95,860	143,378	126,240	189,357
United States	1,816,425	1,082,755	1,211,365	1,400,420	1,821,484
Other countries	925,759	528,853	316,294	233,353	489,363
Total	10,669,661	9,010,590	9,618,026	7,746,669	10,173,135

The following is an Official Statement of the Imports of Wheat and Wheatflour into Great Britain for 5 years :

From	1849. Quarters.	1850. Quarters.	1851. Quarters.	1852. Quarters.	1853. Quarters.
Russia, Northern ports	47,716	69,084	35,700	27,112	252,242
Do. Black Sea ports	446,501	569,529	663,984	706,622	818,930
Denmark and Duchies	241,751	162,207	168,768	218,834	294,926
Prussia	616,612	835,650	696,175	452,293	1,145,845
Hanse Towns	329,369	222,289	100,987	49,487	223,914
Other ports of Germany	167,448	158,655	163,734	130,144	185,417
Holland	306,411	293,465	66,414	124,963	57,732
France	738,833	1,145,146	1,193,433	459,418	341,444
Italian States	279,680	117,323	241,852	65,104	164,255
Wallachia and Moldavia	46,972	70,035	164,374	86,139	227,143
Other Turkish ports	116,415	65,523	175,565	40,841	251,343
Egypt	128,273	247,235	533,191	394,668	357,906
British N. America	141,266	80,394	129,680	110,133	168,021
United States	613,601	537,080	911,855	1,231,893	1,582,641
Other countries	481,627	256,698	84,700	67,552	164,100
Total	4,802,475	4,830,263	5,330,412	4,164,603	6,235,860

Imports of Indian Corn into the United Kingdom.

A recent Parliamentary document informs us of the quantities of Indian Corn imported into the United Kingdom in each year since 1840, as follows:

IMPORTS OF INDIAN CORN FROM 1840 TO 1853.

Year.	Qrs.	Year.	Qrs.
1840	21,073	1847	3,615,218
1841	4,733	1848	1,582,754
1842	19,618	1849	2,240,570
1843	13,225	1850	1,286,218
1844	38,711	1851	1,819,783
1845	42,285	1852	1,479,991
1846	720,581	1853	1,552,934

The quantity of Indian Corn Exported from the United States to Great Britain during the year ending 30th June, 1854, was 5,965,850 bushels.

Average Prices of Wheat, Quantity Imported, and Character of Crops, in Great Britain, from 1800 to 1840 inclusive. From "Waterson's Cyclopedia of Commerce."

Years.	Character of crop.	Average price. s. d.	Quantity imported. Quarters.
1800	Bad	110. 5	1,242,507
1801	Good	115.11	1,396,659
1802	Average	67. 9	498,359
1803	Average	57. 1	291,145
1804	Deficcient	60. 5	398,067
1805	Average	87. 1	842,879
1806	Average	76. 9	280,876
1807	Average	73. 1	377,833
1808	Partial deficiency	78.11	
1809	Scarcity	94. 5	424,709
1010	Good	103. 3	1,491,341
1811	Deficient.	92. 5	230,366
1812	Favorable	122. 8	244,385
1813	Favorable	106. 6	425,559
1814	Nearly average	72. 1	681,333
1815	Full average	63. 8	
1816	Scarcity	76. 2	225,763
1817	Not above average	94.	1,020,949
1818	Not above average	83. 8	1,593,518
1819	Rather below average	72. 3	130,133
1820	Above an average	65.10	34,274
1821	Average	54. 5	2
1822	Average	43. 3	
1823	Below average	51. 9	12,133
1824	Average	62.	15,777

Years.	Character of crop.	Aaerage price. s. d.	Quantity imported. Quarters.
1825	Nearly Average	66. 6	525,231
1826	Average	56.11	315,892
1827	Average	56. 9	572,733
1828	Scanty	60. 5	842,050
1829	Average	66. 3	1,379,114
1830	Full average	64. 3	1,711,874
1831	Nearly average	66. 4	1,510,486
1832	Above an average	58. 8	376,638
1833	Above an Average	52.11	84,037
1834	Above an average	46. 2	54,975
1835	Abundant	39. 4	28,553
1836	Above an average	48. 6	30,108
1837	Under average	55.10	244,275
1838	Scarcity	64. 7	1,480,477
1839	Under average	70. 9	2,711,309
1840	Average	66. 4	2,401,367

Lowest and highest averages in the year, Character of crops, &c.

(From Merchants' Magazine.)

	Lowest and highest average in the year. s. d. s. d.
1841–Warm May and June; cold July and August; fine harvest in September	60 0 76 0
1842–Fine spring; delicious summer; good grain, but scarce	47 0 66 0
1843–Fine, wet spring; fine summer; good harvest	45 0 61 0
1844–Dry summer; no rain in April, May or June; good harvest	46 0 56 0
1845–Cold, long winter; ungenial summer; no sun in summer; harvest plentiful, but bad corn	45 0 60 0
1846–Spring fine; June half wet, half dry and hot; thunder; loss of potatoes	45 0 64 0
1847–Cold, wet, bitter spring; fine summer; cold and wet September; beans and potatoes blighted	49 0 102 0
1848–Winter and spring mild; showery harvest	47 0 57 0
1849–Bitter spring; in summer, rain at nights, day hot; good harvest	38 0 49 0
1850–Cold to May; harvest good	37 0 44 0
1851–Winter mild; spring wet; harvest precarious	35 0 43 0
1852–Mild winter; cold spring; fine summer; average corn harvest; potatoes diseased	37 0 46 8
1853–Immensely wet winter; cold summer wet July; autumn rainy; deficient harvest in France and England	43 0 73 0
1854–Severe winter; great winds; beautiful spring	78 0 82 0

The Indebtedness of Tennessee.

From Gov. Johnson's Message, 1855.

The actual indebtedness of the State at this time is as follows:

Five and a quarter per cent. bonds issued for stock in internal improvement companies.....	$227,416 66
Five per cent. bonds issued for stock in internal improvement companies.....	1,824,440 00
Six per cent. bonds issued for capital in the Bank of Tennessee.....	1,000,000 00
Six per cent. bonds issued for building State Capital	691,000 00
For stock in the Union Bank.....	250,000 00
Amounting to.....	$3,992,856 66

In addition to the above actual indebtedness, the State is liable for bonds loaned and endorsed as follows:

To the East Tennessee and Georgia Railroad.....	$870,000
" Tennessee and Alabama.....	300,000
" Memphis and Ohio.	340,000
" East Tennessee and Virginia.....	569,000
" Memphis and Charleston.....	740,000
" McMinnville and Manchester.....	300,000
" Mississippi and Tennessee.....	93,000
" Mississippi and Dyersburg Plankroad.....	25,000
" Mansker's Creek and Springfield Turnpike (endorsed)	10,000
" Nashville and Chattanooga R. R. (endorsed).	1,500,000
Amounting to.....	$4,752,000

Making the whole liabilities of the State for bonds issued for stock, loaned and endorsed to Internal Improvement Companies, amount to eight millions seven hundred and forty-four thousand eight hundred and fifty-six dollars and sixty-six cents, ($8,744,-856 66.)

It will devolve on the Legislature to provide for the payment of one hundred and twenty-five thousand dollars ($125,000) of the Bonds which were issued for stock in the Union Bank, falling due first of January, 1858; and fifty thousand dollars ($50,000) bonds issued for building the State Capitol, falling due first of April of the same year. It is for the Legislature to determine whether these bonds shall be paid by imposing additional taxes on the people, or out of the stocks owned by the State.

I lay before you for examination, the original cost and present estimated value of the State stocks, and also the value of the taxable property and number of taxable polls, made out by the Comptroller of the Treasury:

STOCKS OWNED BY THE STATE.

Stock.	Original cost.	Estim'd Pres't val.
Bank of Tennessee	$1,000,000	$1,000,000
Union Bank	650,000	650,000
East Tenn. and Georgia Railroad	650,000	300,000
Franklin and Col. Turnpike	75,950	56,925
Lebanon and Nashvill "	80,000	48,266
Nolensville "	47,000	11,750
Nashville and Charlotte "	30,000	20,000
Lebanon and Sparta "	85,000	21,170
Columbia Central "	139,000	21,170
Nashville and Kentucky "	50,000	12,500
Clarksville and Rus'lville "	37,500	9,000
Col., Pulaski & Elkton "	126,000	12,233
Nash. and Murfreesboro "	66,666 66	30,530
Gallatin and Cumberland"	6,000	5,283
Gallatin "	130,000	26,000
Cumb. and Stone's River"	119,000	20,000
Total value	$3,292,716 66	$2,244,827

The above turnpike companies pay six per cent. on the estimated value.

Total value of Taxable Property	$219,011,047 87
Total number of Taxable Polls	100,011
State Tax on $219,011,047 87 at 10 cents on the one hundred dollars	219,011 04
State Tax on 100,011 polls at 15 cents	15,001 65

DEPARTMENT OF PUBLIC IMPROVEMENT.

MEMPHIS AND CHARLESTON RAILROAD.

We learn through the public prints that the cars on this road made their first trip to Huntsville, Alabama, on the 22d October. It is expected that the road will be opened from Chattanooga to Tuscumbia by the 1st January, 1856.

THE MEMPHIS AND OHIO RAILROAD.

This is emphatically one of the "fastest" Railroad enterprises of the day.

In August, 1854, the work was begun in earnest, and about 2,000 hands were constantly engaged at it, until May 1, 1855. By

that time the first thirty miles were ready for the iron, and the State Commissioner, Col. R. G. Payne, was invited down to Memphis to inspect it. He came down, examined it, promptly gave the required certificates, upon which the Governor as promptly issued to the company $300,000 in State bonds. The tracklayers commenced laying down the iron on the 1st of June; and by the 1st of November thirty miles were ironed and the cars making trips for freight and passengers. On the 1st October ten miles more were inspected and received by the State Commissioner, and the Governor has just issued to the company $100,000 more in State bonds. By the middle of December ten miles more will be ready for the iron; and the cars, by that time, will run beyond Mason's, the depot in Tipton county, thirty-five miles from Memphis! In a short time the road will be at Brownsville, fifty-six miles, and the trade and travel that will then come over this road will be enormous.

It is thus seen, that, within sixteen months this road has forty miles graded, thirty miles ironed, and in three or four months more,—in twenty months at most, from the day the first earth was thrown—fifty-six miles will be running daily, with a full equipment of locomotives, cars, &c., &c.!

This achievement has no parallel in the South and West, and the country should come up to the aid of the Directory! The road will be running to the town of Brownsville a year before the last instalment is due from stockholders in the country; and those who are thus benefited a year, or two years, sooner than they ever believed or hoped, should now come up and anticipate their calls, as the Directory have built the road ahead of their means.

We learn that the line recently surveyed from Brownsville to Paris, give 34 miles "airline," from Brownsville. This, we presume, is the longest tangent south of the Ohio river, and is worth thousands to the Company, in the operation of the road.

Eagle & Enquirer, Nov. 3.

(From the Hickman Argus, Nov. 2, 1855.)

Important Move for Hickman.—Consolidation of the Hickman & Obion and Nashville & North-western Railroads.

It is with great pleasure that we announce to our readers, and to all in any way interested in the young and growing city of Hickman, that it may now be regarded as an absolute certainty, that Hickman has been or is to be made, the terminating point on the Mississippi river, of the Nashville & North-western road, the short road, reaching from Hickman to the point on the Mobile & Ohio road, where the Nashville & North-western taps that road, having

been consolidated with, and become a part of, the Nashville and Northwestern road, the latter road to be hereafter known as the road running direct from Nashville to Hickman and properly named would be called the Nashville & Hickman railroad.

This grand object was consumated, in Hickman during the early part of this week so far as the respective committee, representing the directories of the two roads were authorized to act in the matter; and each directory will ratify the act of its committees, there cannot be a doubt. In effecting the consolidation, Col. Jno. A. Gardner, and H. L. Claiborne, represented the N. & N. W., and A. D. Kingman, O. F. Young and E. B. Fuqua, the H. & O. road.

The stockholders of the H. & O. road, without, we believe, any exception, willingly signed a paper transferring their stock to the N. & N. W. road.

The city council of Hickman unanimously voted that the $50,-000 stock in thirty year bonds, that the citizens of Hickman had, by vote, authorized them to issue to the H. & O. road should be issued to the N. & N. W. road.

These things were done in order to form a basis for the conolidation of the two roads.

The two committees in examining the affairs of H. & O. road, found that on account of the failure of several of the stockholders to pay their stock as it become due, there was still wanting, to thoroughly complete the road-bed, for putting down the iron—the sum of $10,000. And it was agreed upon and fixed to a certainty, that if the friends of the H. & O. road, would at once raise that sum by subscription in notes due four, eight, and twelve months from date, then, the N. & N. W. company would guarantee to finish the road from Hickman to the Mobile & Ohio road in 6 months —to have cars running on it in that time.

The above are the terms of the consolidation, as we understand. These terms were agreed upon, last Monday evening. Late on Tuesday evening nearly one half of the $10,000 had been subscribed, and that almost entirely by citizens of the town. If the entire amount has not, before this (Friday morning,) been subscribed, we have but little doubt that it will by next Monday.

CAIRO AND FULTON RAILROAD.

We are pleased to observe that the citizens of South-east Missouri are making earnest and efficient movements in respect to this great work.

At a meeting of the citizens of Scott and New Madrid counties, held on the 13th ult., it was "Resolved, that the said counties respectively subscribe for stock in the Cairo & Fulton railroad $50,-000 to be met and paid through the Swamp lands of said counties by a transfer of the same, or the application of their proceeds."

AGRICULTURAL DEPARTMENT.

THE GRASS LANDS OF ARKANSAS.

The growing of grass in Arkansas has, up to this time, received very little attention, and especially so, when compaired with the great amount of fine meadow, or pasture lands, which lie unoccupied and unobserved in the North-east quarter of the State. These lands are generally designated *slash*, *swamp or wet lands*, and are suitable for little else than stock and grass farms; but are eminently qualified for this business. These lands are to be had generally at 50 cents per acre, having been given to the State as swamp lands; and if cleared up, drained, and well cultivated in clover, timothy and herdsgrass, would produce from 1500 to 3000 lbs. of good hay per acre, which could be sold on the ground for 75 cents per cwt. By the way, a much better business than our cotton farmers are doing on our best lands,—not requiring one-fourth the labor.

These lands may be classed in three classes, tho' nearly allied.

1. The ridge land, which lies low and level, but does not need ditching. The growth is yellow oak, post oak, hickory and some dogwood; yellow, spungy, clay soil; produces clover and timothy finely, and after grassing a few years, produces wheat, corn and oats well.

2. The post oak glade lands, are white, and appear very poor, but contain a good deal of lime; and altho' wet and soft, during the winter and spring months, they will produce from 1500 to 3000 lbs. of herdsgrass per acre. As fine hay as ever need be raised.

3. The slash land, proper, *all wet*, most of the year, needs ditching and draining, but much richer soil than either of the classes before mentioned. Growth of over-cup oak, scaly-bark hickory, ash, maple, and a shrub, which we call black-spice. It will cost some trouble to put this class of land in cultivation, but once done, and it will never ware or depreciate much; and after grassing a few years, will produce fine grain of any sort, or fine cotton.

Now, sirs, we have thought that many persons within your circulation would be pleased with such a country as we have tried to describe; where horses, mules, cows and hogs do well without attention; but how much would they improve, could we have a few

of your experienced stock raisers, and grass farmers, scattered through these lands. Here, too, is a ready market, at fair prices, for most of the stock and hay raised here — will not more than supply the cotton farms which are opened on the higher lands —but should there be a surplus, South Arkansas, Louisiana and Mississippi, will always demand more than can be produced here, and will pay fair prices for horses, mules, hogs and hay; and in winter, if by our grass farms we were prepared to furnish good stall fed beef, we can supply the southern market, when northern beef cannot be shipped.

Now, sirs, these thoughts are thrown out to induce the settlement of our grass lands by farmers from a grass growing country, who may wish a mild climate and a wide opening for operation. The lands described are to be found in the counties of Mississippi, Crittenden, Philips, Monroe, St. Francis, Poinsett, Green, Randolph, Lawrence and Jackson—embracing a large scope of country for selection.

Yours, truly, J. M. STEEL.

Indian Millet, or Dourah Corn.

BY N. T. SORSBY, OF FORKLAND, GREENE COUNTY, ALABAMA.

Indian millet, (*Holcus sorghum,*) as its name implies, is a native of India, and is cultivated in most parts of Asia Minor, Africa, the West Indies, and Brazil. It has also been introduced into the South of Europe, China, Cochin-China, Japan, and into the southern and middle portions of the United States. In Arabia, it is called "Dora," or "Dourah," in France "Sorgho blanc," or "Doura," in the British West Indies "Guinea corn," in the United States "Dourah corn" and "Tennessee rice." It will grow to perfection from Pennsylvania to Texas, and doubtless would mature its seeds in most of the Western States south of Iowa.

I first saw this plant growing in Georgia, in 1838. The year following, I introduced its culture into this country, where it has been somewhat extensively cultivated since. There are two distinct varieties of this corn cultivated with us, namely, the "White" and the "Reddish-brown." They are readily distinguished by the color of the seeds. The brown is preferred to the white, as it is more prolific in grain, which matures earlier, and yields four times as

much. The white is so late in maturing that the frost destroys much of it, and it yields so little grain, compared with the brown, that our planters have almost abandoned its culture. The meal, or flour, of the white is much lighter colored and nicer in appearance than that of the brown, the latter being dark colored by the pericarp and chaff. Both varieties grow well until checked by frost.

Cultivation. — This plant grows well on the poorest soils, and makes a good crop on our lime-stone rock, where there is enough of it distintegrated to support the stalk. The best soils are the light, rich, sandy loams, and the rich black lime stone soils.

The land is ploughed into ridges, from three to four feet apart, just before the time of planting. In March, April, and May, and sometimes in June and July, these ridges are opened with a "scooter plough," and the seed either sown or covered with a harrow from an inch to one and a half inches deep. It is also sown broadcast, and covered with a harrow. In some instances, it is planted in the missing hills of Indian corn. From one peck to a bushel of seed is sown to the acre. Plenty of seed, however, must be put in to secure a stand. If it is much weevil-eaten, and then covered too deep, it does not come up well. After it comes up, it will grow in spite of the frost, rain or drought, being a very hardy plant.

When sown broadcast, it is not worked at all. If drilled, it is chopped with hoes to a stand and ploughed once, unless drilled for soiling, when it is not thinned out. If planted with Indian corn, it is cultivated with it. It needs but little culture. After it gets a start, it defies weeds and grass, and will make a crop in spite of every disaster.

Judging from my own observation, this corn will yield from 10 to 100 bushels of seed to the acre, according to the quality of the land and the mode of culture. It is sometimes cut green for soiling cattle and mules; and if properly done, so as not to injure the buds near the ground, it may be cut several times in a season. It is also cured and made into fodder, or hay. When intended for fodder, it is pulled, and cured like the stalks of Indian corn. The ears are cut as they ripen, and are preserved for seed, or fed to stock. The stalks are cut after the seed ripens, in September and October, and fed to animals. The ears are eaten entire by cattle and hogs. The stalks are sometimes cut before frost and put into barns, and then fed to stock. They remain green for months, and do not ferment nor spoil so soon as Indian corn and other grain.

The planters here, after gathering their seed, and curing as much as they desire of it, in September or October, turn all their stock into the fields to feed. No further care of them is necessary, except to salt and water them. If the field is large enough, in a short time, all will get fat on it, and leave the ground covered from ankle to knee-deep with the stalks. I have never heard of

its killing any animals, and they will eat quantities of it, from the time it comes up until it disappears after frost. It is not only a harmless but a very healthy plant. Birds and weevils destroy much of it if the grain remains in the field until frost. Weevils are not so destructive after it is put into barns. Rats and mice will destroy it unless cared for.

Uses.—Besides serving as food for fowls and animals in Egypt, India, and China, it is used as food by the inhabitants. A failure of this crop in Arabia would be as great a calamity as almost that of the wheat crop. It is their food and fuel, and grows by scanty irrigation on land which produces scarcely any other grain. It is ground into flour, and cooked alone into cakes and bread, or mixed with rice-flour and other food. In Germany, it is substituted for rice, and sells for about the same price.

Taking into consideration the facts that it will yield more stalks, fodder, and grain, on a greater variety of soils, and with less labor, in any season, and return more litter to the land than any other grain, and being an universal food for man and beast, in tropical climates, it may be justly considered one of the most valuable of the Cerealia. There is a diversity of opinion whether this plant exhausts the land. As broom-corn is considered as exhausting, so may this be; but I am inclined to believe that it is not, since it returns so much vegetable matter to the soil in proportion to the small amount of grain removed. It decays very slowly, requiring a year to do so if allowed to remain on the surface. Turned under with the plough, it decays much sooner, and no doubt, if previously limed, it would rot much sooner, and be a valuable manure.

Gasconade Calamity—Pacific Railroad.

From a Letter to his Brother,

BY THE JUNIOR EDITOR.

The clouds hung gloomingly over the city of St. Louis, though joy shone brightly from the faces of six hundred of its inhabitants, as, at half past eight o'clock on the morning of the first of November, 1855, they entered the cars of the Pacific Railroad to join in the celebration of its completion, one hundred and twenty-five miles, to Jefferson City.

The people of the capital of Missouri, gladdened by the material prosperity that was dawning on their political city, tendered the hospitality of their homes to vast numbers of the inhabitants of

the State, and prepared a sumptuous entertainment for their guests on this day; and, on the same day, a general convention had agreed to meet there for the purpose of devising measures to promote the Railroad interests of the State; and the Legislature had adjourned to meet again on the first Monday of this month.

Mr. Thomas S. O'Sullivan—the Chief Engineer of the Pacific R. R., and of public opinion on railroad measures, the high-toned gentleman and ripe scholar, the diplomatist in financiering, and a genuine soul of the corporation—Mr. O'Sullivan, on the morning of this first of November, was exalted with hope and faith that the most brilliant result, the most glorious victory ever won by the State of Missouri for its prosperity, would be gained this day.

A few only of the invited guests, whether from the cloudy heavens, or from their guardian angels, felt forebodings of impending calamity; and some who intended to go, remained at home ; while others, who halted, were constrained to join the joyous croud, and never returned, alive.

Having passed over the road before from St. Louis to the vine-clad city of Hermann, 81 miles, I rode to this point on the front part of the train of eleven cars, which, with the baggage car, tender and the great locomotive—"Missouri"—extended 640 feet in length.

At Hermann, Mr. O'Sullivan, with the earnest wish to be in Jefferson City at the appointed minute, remarked to me, that, as the cars were not quite up to the time desired at this point, he thought he would pass over the Gasconade bridge without stopping, as he had intended to give the passengers the pleasure of a view of that structure, which was thirty-eight feet above low water and seven hundred and sixty feet from abutment to abutment, having seventy-two feet of trestle-work, outside of each abutment, and thus being over nine hundred feet from embankment to embankment.

Starting from Hermann about one o'clock, I passed from the front car, in which I had been riding, and leaving the smiling faces of friends whose social company I had been enjoying, and some noble souls never more to be met with on earth, and going through the whole train, shaking hands by the way, for the last time, with several venerated friends, whom I then saw for the first time that day; and inviting many to accompany me, which they all declined, on account of the croud, I entered the last car for the purpose of

viewing the road and the rivers, the bluffs, the bridges, and the whole country, along the line of the forty-four miles, which I had never before traveled, from Hermann to Jefferson City; and though in the train that went to destruction, I was the only one of the six hundred companions, that was not touched by even an intimation of personal danger.

In transport and solitude, I was sitting in a small saloon, over the last wheels of the last car, gazing out of the back window on the beautiful works of nature and of art, on the towering bluffs, on the lowly vales, on vineyards here and there along the southern side of the road from Hermann westward, and on the broad expanse and far reaching views of the Missouri river, on the distant fields of Montgomery county beyond the Missouri along the northern side, on the deep rock excavations, embankments, and ballast of the road along the track, and then on the first narrow strip of bright green water widening westward against the strongly marked line of deep yellow water showing the unintermingling meeting of the waves of the Missouri and the Gasconade; and pleased with the movement of the car which glided along charmingly, like a boat on the water, or, as I thought at the time, like a sleigh on the snow, when, seven miles west of Hermann, at nearly half past one o'clock, gradually and quietly, the car stopped, and all was still.

Thinking that Mr. O'Sullivan, the rider on the iron horse—the engine "Missouri"—had changed his mind, and stopped the cars, to give the passengers a view of the bridge, I arose from the window, and, passing the door of the little saloon, saw no one in the body of the car, which, when I entered while leaving Hermann was filled with a band of musicians and Hermann soldiers. Then passing from the car, by the outer door at my side, the mute amazement of some passengers behind the car was a source of amusement; but when I stepped on the ground, at the northern side of the track, and turned to take a view of the bridge, the pleasing charm, by which I had been spell-bound, was broken.

An awful abyss opened wide before me. I stood on its brink. Only one—the last—car remained on the track. Ten laid in ruins. Two were thrown from the embankment towards the south, one on its side and one wheels upward. One car was hanging on the abutment. All the St. Louis companions had gone. I rushed to aid in the rescue of the victims of the ruin. A man was hanging by his arm through the window of the car that was hanging on the

abutment of the bridge. I caught him by the collar of his coat, and as he struggled with his hands and feet, drew him safely through the window of the car out on to the firm rocks of the precipice. His name I did not learn. All the other passengers in that car seemed to have sunk down into the front part below; and the groans of the wounded and dying ascended from the chasm, as from an infernal region, while the wind was howling around, and the rain beating down in torrents.

Immediately I descended the embankment about twenty-five feet, passed to the abutment on the northern side and along the muddy space from the abutment to the first pier of bridge, 130 feet, in which space seven passenger cars were lying, facing north and south by turns, and side by side, surrounded by men, who were able, struggling to save those who were disabled.

Nearly against the first pier, one hundred and thirty feet from the abutment, the front of the baggage car was lying pointing northwestward. Out of the roof of this car a wounded man was taken, and, placing him on a board, as his leg was broken and he could not walk, and placing the board on one of the beams, which had fallen with one end on the top of the car and the other end at the water's edge, I aided in sliding him on the board down along the beam to the water, were a skiff was brought, in which he was placed, and rowed on the river to a neighboring hut on the bank. His name I learned was Livermore.

The tender was lying facing the south with its side against the pier, the base of which at the water's surface was then about thirty feet below the rail of the road.

The locomotive was lying south of the tender, facing the east, with its wheels upward, and under it two living men were fastened, side by side. One of them, a fireman, died before the engine could be raised from his crushed limbs; the other, an engineer, was rescued after four hours labor in moving the engine from his fastened legs. The shrieks of wailing, uttered with the words: "Oh! the misery and pain!" rent the air of that cavernous pit, and pierced the living hearts bleeding with grief.

Below the fallen timbers of the bridge, under the locomotive of twenty-eight tons, down near the edge of the water, I saw a head. The body to which it belonged was buried out of sight, by the weight of the locomotive and the timbers of the bridge. Two men, with a jack screw, endeavoring to raise the locomotive from the two

living victims above, were standing near this head. I cautioned them to step carefully and as the face was westward, and could not be seen without passing around by the water, I asked one of the men standing near it, to feel over it and describe its beard. He did so, and, by his answer, I knew that the face of one of my dearest friends would never brighten my own again.

I desired to aid in raising the locomotive, but the machinists engaged in that work said too many already were there in each others way. I then passed back by the south side of the cars, saw the dead strewn along, and aided the wounded from the ruins to the train sent from Hermann for their relief.

During this time, the clouds which had been heavy for several days, grew nearer and darker than before; the rain which had fallen frequently and fast during the day, poured down more and more violently, the lightning glared, and the thunder rolled closer and closer; until finally thunder, lightning and rain crashed, flamed and raged with fiendish fury, as though unwilling to spare a single living being out of the six hundred on the spot. One could scarcely tell whether the eyes or ears were struck first by the electric enemy. The dead fell from the hands of the living, who were stunned while carrying them from the ruins; the pale faces turned black; and the smell of sulphur pervaded the wreck. Never have I heard of such a scene—of such a desperate struggle between humanity and demonomy. The wounded were thankful they were no worse. Only one prayed to be killed that he might be free from his sufferings, and many of the uninjured labored with almost superhuman energy to rescue the dying from death and the dead from their horrible burial. Yet "there's a divinity that shapes our ends," and by the aid of divine providence five hundred and seventy of the six hundred were saved.

When it was announced that all the living were rescued from the ruins, except Mr. Tucker, the engineer, whose limbs were bound under the engine, which the machinists were continually struggling to raise; and the cars on the track were filled with the wounded, I accompanied them to Hermann, where every requisition was made by Mr. Leimer, to provide for as many as his public house could contain. Some others were provided for throughout the town; and several continued on the train and went direct to St. Louis. I remained at Mr. Leimer's, where after providing for a friend who was almost frantic, and after aiding Judge Wells of the U.S. Court

for the District of Missouri, who was bruised from head to foot and marked with several wounds, and leaving him and his son, who was also wounded, in the care of his devoted wife, who was so solicitous for their safety, that she was unconscious of her own severer wounds until after they were comfortable, I visited several rooms of the wounded, and watched during the night with Mr. O'Neil and Tucker, who were on the engine, and were under it as it fell. Four other persons slept on three mattresses strewn over the floor of their room. The black clots of blood hardened on the face of Judge Thomas, as he was soundly sleeping on the floor were in startling contrast with his calm repose.

The chairs and tables of the kitchen and dining-room were applied to unusual resting purposes, while in the bar-room several relieved their weariness by alternately standing and walking, many of whom wore wet, torn and bloody clothing, and ghastly wounds.

Mr. Leimer, in the meanwhile, during the night, passed around with his lantern, from room to room, to relieve the wants of the various sufferers.

On the afternoon of the next day, the train which had been sent to the Gasconade to bring back the dead, came with two gravel cars, strewn with twenty-nine mangled and lifeless bodies, guarded by a band of heroic men, about thirty most of whom, had spent the whole night, in a chilling storm, on the fatal spot; among them members of the St. Louis Greys, National Guards, Mr. Copp, Col. Kennett, Judge Treat, and other kindred spirits.

After the dead were placed in rough coffins, and the living filled the freight and other cars, the train started on, through the prolonged storm, toward St. Louis. Five miles east of Hermann, the train stopped, and Mr. Griswold, who was lying on a bed with his back broken, and who bore his sufferings with calm fortitude, was placed in the hands of his sorrowing servants, and by them carried throngh the torrents of rain, up the hill, near the road, to his home.

At dusk the train arrived near the Boeuf bridge, about seventeen miles east of Hermann. Order was given that the uninjured passengers would walk over the bridge; and, if it should be considered safe, that the cars containing the dead and wounded were to be pushed over: the locomotive being in the rear.

Amid the walking passengers, I crossed the bridge. The cars with the dead and wounded were about to be pushed over, when suddenly: crash! crash! crash! thundered from the chasm of broken

timbers and roaring waters, and hurrah! hurrah! hurrah! shouted the guard by the watch-fire at the base of the bridge. The crashes and hurrahs explained themselves: the whole span of the bridge was gone, and every body saved.

Three hundred hearts, beating with anxiety, on the edges of this bridge, were filled with mournful gratitude, as the dead were saved a second doom, and the living were parted only for a day, by the abyss.

The train of cars which left St. Louis on the morning of the 2d November, remained east of this bridge, as an immense mass of drift wood in the swollen stream, pressing against the timbers, was threatening its destruction.

The conductors of the different trains, standing on the opposite abutments of this bridge, with strained voices, mingling with the howling winds and roaring stream, and echoing through the wild woods and along the rocky bluffs, in the early darkness, consulted about their future movements. The train with the dead and wounded returned westward, two miles, to Miller's Landing, and the other train, going eastward, ten miles, stopped at Washington,—where arrangements were made to send a boat for the dead and suffering —then continuing slowly eastward, arrived at St. Louis near midnight.

Exhausted by fatigue and wet clothing, endured the day and night previous, I went to sleep at two o'clock after midnight, and slept soundly for eleven successive hours.

At five o'clock on Saturday afternoon, the dead and wounded arrived; and the next Monday being recommended by the Mayor of St. Louis, as a day of mourning for the awful calamity that had occurred, two funeral days of solemn Sabbath stillness, throughout the city, were in succession, devoted to the dead.

List of the Dead.—Rev. Dr. A. Bullard, Pastor 1st Pres. Ch.; J. A. Ross, firm of Ross & Gillum; B. B. Dayton, lawyer; Wm. L. Chappell, Ticket Agent O. & M. R.; E. C. Blackburn, Pres't City Council; Cyrus Melvin, Policeman; Mann Butler, Justice of the Peace; Thomas Grey, firm of Grey & Clark; Calvin Case, Prop. Omnibus Lines; E. C. Yosti, firm of Shields & Yosti; Henry Chouteau, firm Chouteau & Valle; Thos. S. O'Sullivan, Chief Eng. P. R. R.; Capt. O'Flaherty, firm M'Allister & Co.; W. L. Lynch, son of the Undertaker; Elisha B. Jeffrees, Rep. Franklin Co; Joseph Harris, brother of the Representative from St. Louis Co.; Samuel Bast, fireman on locomotive; Patrick Barry, do.; Adolphe Abeles, merchant; Rev. Mr. Teasdale, Baptist Minister; R. M. Dubois, firm L. & C. Speck; William Hume, merchant; George Eberle, livery stable keeper; T. Jefferson Mott, Rep. from Dunklin co.; Joseph Finnegan, Lieut. Night Guard; Mr. McCullough, of Dunklin co.; Wm. Athey, late Clerk in Ass'r's Office; one body, left at the Gasconade, name not known; one body, identified at Hermann, name not known.

About 70 were reported wounded and 30 dead.

NOTICES.

ST. LOUIS MERCANTILE LIBRARY LECTURES: GEOLOGY. Prof. SILLIMAN, Sen., the devotee of science, has been laboring in a course of twelve lectures, before the Library Association, during November, to inspire a kindred devotion in the hearts and minds of the people of St. Louis towards the great science of the world: Geology. His hearers increased in numbers, as he progressed with his lectures; and their mutual interests grew more and more lively.

The profound learning and exalted christianity, the freedom from technicality, and the fullness of genial humor, displayed throughout the course, made his old subject—the world before Adam—as fresh as his own "evergreen of feelings"

Omne tulit punctum qui miscuit utile dulci.

Suiting his style to the taste of St. Louisians, for the useful and the sweet, he has removed every barrier of prejudice from the train of public opinion in this direction, and has given an impetus to the minds of the people, which will be spent in the development of the resources of the State, and in the accumulation of an immense array of geological specimens.

We trust that the Arsenal grounds, adjoining the city of St. Louis, may be transfered by the United States, for the purpose of establishing a School of Mines; and that one township in every land district in the State be granted to aid the Geological Survey of Missouri, in accordance with the Bill, published Feb., 1853, in the Western Journal & Civilian, vol. 9, page 320, and arguments before and since.

Prof. Swallow's report of this survey, now published and being delivered, we hope, will arouse the State and General Government to the importance of immediate and liberal action in favor of this individually and nationally beneficial measure of public policy.

Gedichte von Adalbert Löhr: A volume, bearing the above title, with 218 pages, of German poems, written by the Editor of the "Daily Chronicle," and just received, abounds with cosmopolitan sentiments which are calculated to meet with a response in every human heart that beats with feelings of joy or woe. The sense is strong, the rhythm smooth, and the pathos tender.

PICTURES OF TRAVEL: Translated from the German of Heine by Chas. G. Leland. The third number of this work is received from E. Buehler, No. 31 Third street. The author displays some fine ironical flourishes; but we prefer the home-feelings of humanity, and recommend the "Poetry of Germany," by A. Baskerville, to all students of German literature. Buehler's collection of songs is very choice. "Footsteps of Angels,"—words by Longfellow, music by Weber,—is classical and charming, and must become a standard favorite.

BALMER & WEBER: These large dealers in music have spread their fame throughout the length and breadth, and beyond the limits of the Mississippi Valley. Their "Songs of the Prairies" are sung throughout the land. "Origin of the Harp," "Will you love me when I'm old, "Germania," "Herdsman's Mountain Home," are also spirit-stirring. The musical taste is in good tone; let it be liberally maintained.

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SCHAERFF & BRO., No. 71 Market street, St. Louis, Mo., are prepared to execute anything in the line of lithography; and especially, as they are in possession of the largest sized lithographic presses and stones, they are able to fill orders of the largest dimensions. They take and lithograph portraits and likenesses from daguerrotypes, engrave or lithograph show bill cards, business and visiting cards, diplomas, music, manifests, labels, facsimiles, bank notes, bank bills, bank checks, bill heads, drafts, bills of lading, maps, town plats, &c.

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COMMISSION MERCHANT,
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Refer to M. Tarver, Esq., St. Louis, Mo.

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GENERAL STEAMBOAT AGENTS
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To insure safety, mark Packages
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CLOTHING of all kinds made at short notice, and at low prices.

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march'55. ABNER HITCHCOCK, Sup't.

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Wines and Liquors, sugar, Coffee, Teas, Cocoa, Broma, Sardines, Oysters, Lobsters, Pickles and every variety of articles found in Grocery stores, of the best quality.

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March 1853.

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M'MURRAY, CLARK & CO., Iron Railing Manufactory, n. s. of Chesn. bet. 9. & 10. streets, continue to manufacture at the above establishment, all kinds of plain and ornamental iron railing, balconies, bank and jail doors, book safes, fire-vaults, iron window shutters, iron awnings, lightning rods, bedsteads, gratings, and in fact, any thing which can be formed of iron.

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MANUFACTURERS OF

Fire Proof Doors, Vaults, Safes, Shutters, Iron Railings, Iron **Bedsteads, Chairs, Mantles, Tables, &c. &c.**

Third Street, near Chesnut,

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Make and repair Steam Boilers and all kinds of Sheet Iron Works, in fine and substantial style, of the best materials, at reasonable prices, and short notice.

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Manufacturers and Dealers in

GUNS AND PISTOLS,

OF ALL DESCRIPTIONS,

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☞Repairing Done at the Shortest Notice.

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Ladies' and Gentlemen's Wig Manufactory.

P. A. PIGNERO, importer and manufacturer of the latest style of Parisian Perukes, 4th street, No. 92, (Glasgow Row,) 2d door north of Odd Fellows' Hall, St. Louis, Mo. His stock of wigs, (light and durable,) curls, braids and hair work is of every known style and variety. He also keeps on hand a complete assortment of French Perfumeries, imported directly from Paris, which he will dispose of at a reasonable price. — ☞Private rooms for ladies and gentlemen, entirely separate, and fitted up, where consultation on disease of the hair can be had free of charge.

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JONATHAN JONES' COMMERCIAL COLLEGE, St. Louis, Mo., incorporated by the General Assembly, January 24, 1849. With full authority to "grant diplomas, award degrees, confer honors, and exercise all and singular, the privileges common to Commercial Colleges, authorized by law in other States."—Charter, Sec. 2.

Young Gentlemen wishing to prepare themselves for business pursuits, are respectfully invited to call during business hours and examine the mode of imparting instruction, the progress of the pupils, and the superior facilities extended to those desirous of qualifying themselves for the practcal duties of the Counting House. Personal references given to above one hundred and eighty (180) Practical Accountants now in charge of Books in this city, all of whom have completed their business education in this institution.

N. B. For CIRCULARS containing information in regard to the terms, the course of instruction and all business connected with the above, call at the "Book-keeping Department," corner of Third street and Wash. Aven. or address JONATHAN JONES, St. Louis, Mo.

FRUIT TREES AND SHRUBBERY, for sale by the undersigned, at their fruit farm and nursery. This establishment is located seven miles South of St. Louis, Mo. There are Omnibus Coaches running daily from the City within one half mile of the establishment. The Nursery and Gardens are open at all times (Sundays excepted) for the reception of visitors. Horticulturists and amateurs are respectfully invited to visit the establishment and examine for themselves. In directing the attention of the public to their nursery, they would remark that one of the firm, (Mr. James Sigerson,) has been engaged in the above business for the last twenty-five years; during that time he has tested many of the varieties now growing. This, with the assurance on their part of an intention to increase the number of their trees, as well as to add to their assortment from year to year, furnishes a strong guarantee to persons wishing to make choice selections of fruit, that they can always be supplied. Their prices for trees will be as reasonable as at any similar establishment East or West, and when desired, trees will be delivered free of charge in the city or on steamboats; packed in good order for their destination.

☞All letters addressed to John Sigerson, St. Louis, or to James Sigerson, Carondelet, will meet with prompt attention.

JOHN SIGERSON & BROTHERS.

M. STEITZ,

PACKER OF BEEF AND PORK,

South Second Street. (At hee.)

St. Louis, Mo.

ADOLPH KEHR,

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VIA THE JEFFERSON AND LAKE PONTCHARTRAIN RAILWAY.

This road begins on the Mississippi river, at Carrollton, nine miles above New Orleans, and runs directly to Lake Pontchartrain, where steamers take freight and passengers to Mobile, avoiding the expense of drayage, &c., for freight, and affording passengers for the East and West a safe route outside of New-Orleans during the sickly season.

There is a good Hotel at Carrollton and at the Lake. —may55.

35642

THE

WESTERN JOURNAL

AND

Civilian

M. TARVER & H. COBB, Editors and Proprietors.

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IRON NOTE.—We intend to continue the series of articles on the Manufactures of Iron in St. Louis, showing the various items, from this source of wealth, which make their yearly products amount to $5,000,000.

OHIO AND MISSISSIPPI

Short Route.

RAILROAD.

VINCENNES MAIL & EXPRESS ROUTE

Carrying the Great Northern, Southern and Eastern Mails.

Change of Time.

Through to New York in 45 Hours.

ON AND AFTER WEDNESDAY, OCTOBER 16, 1850, there will be two through trains daily, as follows:

TRAINS EAST.	RETURNING.
MORNING EXPRESS MAIL (Sundays excepted,) leaves St. L. A. M.; and arrives at Vincennes 9: 15 P. M.	MORNING EXPRESS TRAIN (Sundays excepted) leaves 1:30 P. M.; arrives at Illinoistown 8:45 P. M.
LIGHTNING EXPRESS TRAIN, (Saturdays excepted) leaves 8:00 P. M; arrive at Vincennes 9: 15 A. M.	LIGHTNING EXPRESS (Sundays excepted,) leaves 10:15 A. M. arrive at Illinoistown 6:45 P. M.

☞ This is the only route by which passengers can have all railroad between St. Louis and

CLEVELAND, VINCENNES,
BUFFALO, TERRE HAUTE,
NIAGARA FALLS, INDIANAPOLIS,
NEW YORK, EVANSVILLE,
BOSTON, LOUISVILLE,
PHILADELPHIA, CINCINNATI,
RICHMOND, BALTIMORE,
WASHINGTON CITY.

Connecting at Vincennes with the Evansville and Crawfordsville Railroad for Evansville, Terre Haute and Indianapolis, and all points throughout Indiana, Ohio, Pennsylvania and New York, and the Eastern cities.

Also, with the Illinois Central R. R. at Sandoval—the only route by which passengers can have all railroad to Galena, Dubuque, Rock Island, Burlington, Peoria and Chicago. Also for Jacksonville, Beloit and Milwaukie.

Passengers will be conveyed to and from the Illinoistown Station and the Ferry Landing by the Omnibus Line.

The Railroad ferry-boat will leave the Wiggins' Ferry Landing, foot of Spruce street, at 6 o'clock, A. M., and 3:30 o'clock, P. M., to ferry passengers across the river, to connect with the trains.

Freight office, No. 20 South Levee.

Freight for shipment on the line of this road will be received and forwarded from the Company's Warehouse, No. 20 South Levee.

For further information in regard to the same apply to A. R. Pendleton, Gen. Freight Agent.

☞ FREIGHT OFFICE, No. 20 Fourth street, under the Planters' House, and No. 20 South Levee.

For further information in regard to Tickets apply to Thos. Wyman, Gen. Ticket Agent.

Passengers are particularly requested to procure Tickets before taking seats in the cars. Extra charge for tickets purchased in the cars.

JAMES E. WARD, General Superintendent.

A. W. EDDY, Assistant Gen'l Superintendent.

Superintendent's Office, Dec. 6, 1850.

St. Louis Cotton Factory.

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MONDAY, August 4th, this road will be open to Hermann for the transportation of passengers and freight. Until further notice Trains will run daily, (Sunday excepted,) as follows:

Leave St. Louis at 9 30, A. M., arrive at Hermann at 5:30, P. M.

Leave Hermann at 9 30, A. M., arrive at St. Louis at 5, P. M.

A train will leave Washington at 8 00, A. M., arriving at St. Louis at 7 A. M. Returning leave St. Louis at 5 00, P. M., and arrive at Washington at 7 45 P. M.

This extension of the road gives increased facilities to the Missouri travel and trade, affording greater accommodations, together with a safe and speedy transportation to and from market.

SUNDAY TRAINS.

GOING OUT.

Leave St. Louis at 9 15 A. M., arrive at Hermann at 1 45, P. M.

Leave St. Louis at 3 00 P. M., arrive at Hermann at 7 30, P. M.

RETURNING.

Leave Hermann at 5 30, A. M. and arrive in St. Louis at 10:00, A M.

Leave Hermann at 2 45 P. M., and arrive in St. Louis at 7 00, P. M.

Passengers can go out by morning trains as far as Cheltenham, and return to the city on down train at 10, A. M. By the afternoon train as far as Franklin, remaining three fifteen minutes and, returning by evening train from Washington, arrive in St. Louis at 7 o'clock.

☞ Passengers are requested to procure tickets before taking seats in the cars.

☞ EXTRA CHARGE for Tickets purchased in the cars.

☞ Omnibuses will call at the Hotels for Passengers, and run regularly to and from all the passenger trains.

UNITED STATES MAIL.

Kimball, Pierce & Co.'s daily line of four horse Post Coaches leave Hermann on arrival of the Morning Train from St. Louis, and run regularly to Jefferson City, in connection with lines west and southwest, via Warsaw to Springfield, Mo., and Van Buren and Fort Smith, Ark.

For through tickets, including Railroad fare, apply at the Stage Company's office, under Planters' House corner Fourth and Chesnut streets, St. Louis.

F. BARFIELD will run his line of Stages Hourly between Hermann's and Manchester in connection with each passenger train. Tickets procured at the depot on Fourth street.

Freight will be received for shipments, at the Fourth street depot, daily, Sundays excepted, between the hours of 8 o'clock, A. M., and 6 o'clock, P. M., until further notice.

Freight to those stations where the Company have no agents, must be pre-paid.

JAS. WARD,
Master Transportation.

Approved: THOMAS H. [illegible],
President and Superintendent.

Washington Steam Printing Establishment.

ST. [illegible]

Agent [illegible]

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IRON NOTE.—We intend to continue the series of articles on the Manufactures of Iron in St. Louis, showing the various items, from this source of wealth, which make their yearly products amount to $5,000,000.

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Broad Guage

RAILROAD.

UNITED STATES MAIL & EXPRESS ROUTE

Carrying the Great Northern, Southern and Eastern Mails.

Change of Time.

Through to New York in 45 Hours.

ON AND AFTER WEDNESDAY, OCTOBER 10, 1855 there will be two through trains daily, as follows :

TRAINS EAST.	RETURNING,
MORNING MAIL TRAIN (Sundays excepted,) leave 7:00 A. M.; and arrives at Vincennes 2:15 P. M.	MORN'G MAIL TRAIN (Sundays excepted,) leaves 1:20 P. M. arrive at Illinoistown 8:40 P. M.
LIGHTNING EXPRESS TRAIN, (Saturdays excepted) leave 2 00 P. M; arrive at Vincennes 9:15 A. M.	LIGHTNING EXPRESS (Sundays excepted,) leaves 12:15 A. M. arrive at Illinoistown 8:45 A. M.

☞This is the only route by which passengers can have all railroad between St. Louis and

CLEVELAND,	VINCENNES,
DUNKIRK,	TERRE HAUTE,
BUFFALO,	INDIANAPOLIS,
NIAGARA FALLS,	EVANSVILLE,
NEW YORK,	LOUISVILLE,
BOSTON,	CINCINNATI.
PHILADELPHIA.	BALTIMORE,
RICHMOND,	WASHINGTON CITY.

Connecting at Vincennes with the Evansville and Crawfordsville Railroad for Evansville, Terre Haute and Indianapolis, and all points throughout Indiana, Ohio, Pennsylvania and New York and all eastern cities.

Also, with the Illinois Central R. R. at Sandoval—the only route by which passengers can have all railroad to Galena, Dubuque, Rock Island, Burlington, Peoria and Chicago. Also for Janesville, Beloit and Milwaukie.

Passengers will be conveyed to and from the Illinoistown Station and the Ferry Landing by railroad Omnibus Line.

The Railroad ferry-boat will leave the Wiggins' ferry-landing, foot of Spruce street, at 6 o'clock, A. M., and 1:00 o'clock, P.M., to carry passengers across the river, to connect with the trains.

Freight office, No. 39 South Levee.

Freight for stations on the line of this road will be received and forwarded from the Company's Warehouse, No. 39 South Levee.

For further information in regard to the same apply to A. B. Pendelton, Gen. Freight Agent.

☞TICKET OFFICE, No. 28 Fourth street, under the Planters' House, and No. 39 South Levee.

For further information in regard to tickets inquire of Isaac Wyman, General Ticket Agent.

Passengers are particularly requested to purchase tickets before taking seats in the cars. Extra charge for tickets purchased in the cars.

JAMES M. WARD, General Superintendent.

A. W. DANA, Assistant Supt.

Superintendent's Office, Oct. 8, 1855

St. Louis Cotton Factory.

ADOLPHUS MEIER & Co., Manufacturers of St. Louis Cotton Yarn, &c., Importers and Dealers in HARDWARE and CUTLERY No. 23, corner of Main & Chesnut Streets St. Louis, Mo.

PACIFIC RAILROAD.

OPEN TO HERMANN.

MONDAY, August 6th, this road will be open to Hermann, for the transportation of passengers and freight. Until further notice Trains will run daily, (Sunday excepted,) as follows :

Leave St. Louis at 8 30, A. M., arrive at Herman at 12 45, P. M.

Leave Hermann at 2 20, P. M., arrive in St. Louis at 7, P. M.

A train will leave Washington at 5 00, A M., arriving in St. Louis at 7 A M. Returning leave St. Louis at 5 00, P. M., and arrive in Washington at 7 45 P. M.

This extension of the road gives increased facilities to the Missouri travel and trade, affording greater accommodations, together with a safe and speedy transportation to and from market.

SUNDAY TRAINS.

GOING OUT.

Leave St. Louis at 9 15 A. M., arrive at Hermann at 1 50, P. M.

Leave St. Louis at 3 00 P. M., arrive at Hermann at 7 35, P. M.

RETURNING.

Leave Hermann at 5 50, A. M. and arrive in St. Louis at 10:00, A M.

Leave Herrmann at 2 45, P. M., and arrive in St. Louis at 7 00, P. M.

Passengers can go out by morning trains as far as Cheltenham, and return to the city on down train at 10, A. M. By the afternoon train as far as Franklin, remaining there fifteen minutes and, returning by evening train from Washington, arrive in St. Louis at 7 o'clock.

☞Passengers are requested to procure tickets before taking seats in the cars.

☞ EXTRA CHARGE for Tickets purchased in the cars.

☞ Omnibusses will call at the Hotels for Passenger, and run regularly to and from all the passenger trains.

UNITED STATES MAIL.

Kimball, Moore & Co.'s daily line of four horse Post Coaches leave Hermann on arrival of the Morning Train from St. Louis, and run regularly to Jefferson City, in connection with lines west and southwest, via Ve sailles and Warsaw to Springfield, Mo., and Van Buren and Fort Smith, Ark.

For through tickets, including Railroad fare, apply at the Stage Company's office, under Planters' House corner Fourth and Chesnut streets, St. Louis.

F. BARTOLD will run his line of Express Hacks between Barrett's and Manchester in connection with each passenger train. Tickets procured at the depot on Seventh street.

Freight will be received for shipments, at the Fourteenth street depot, daily, Sundays excepted, between the hours of 8 o'clock, A. M., and 6 o'clock, P M, until further notice.

Freight to those stations where the Company have no agents, must be pre-paid.

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Approved: THOMAS S. O'SULLIVAN,
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Washington Steam Sash Factory.

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Also we make STEAM BOILERS of the best materials and superior workmanship, warranted equal to any in the United States, and at prices satisfactory to all.

Also all kinds of SHEET IRON WORK AND BLACKSMITHIMG.

Also we are manufacturing most kinds of merchantable IRON, both round and square, of the best quality.

We are also manufacturing RAILROAD SPIKES and CHAIRS, with much facility.

Persons in want of any thing in our line would do well to give us a call before contracting elsewhere.

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References: Gray, Clark & Boyle, and Wm. Mulligan, Manager of St. Louis Rolling Mill. Rarch'55

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